

Northern Pacific Railway

Transportation Rules

Effective April 1st, 1926

No. 18562

J. G. Gault

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Form 1851—Revised

NORTHERN PACIFIC RAILWAY

TRAIN RULES

AUTOMATIC BLOCK SIGNAL RULES

INTERLOCKING RULES

GENERAL REGULATIONS

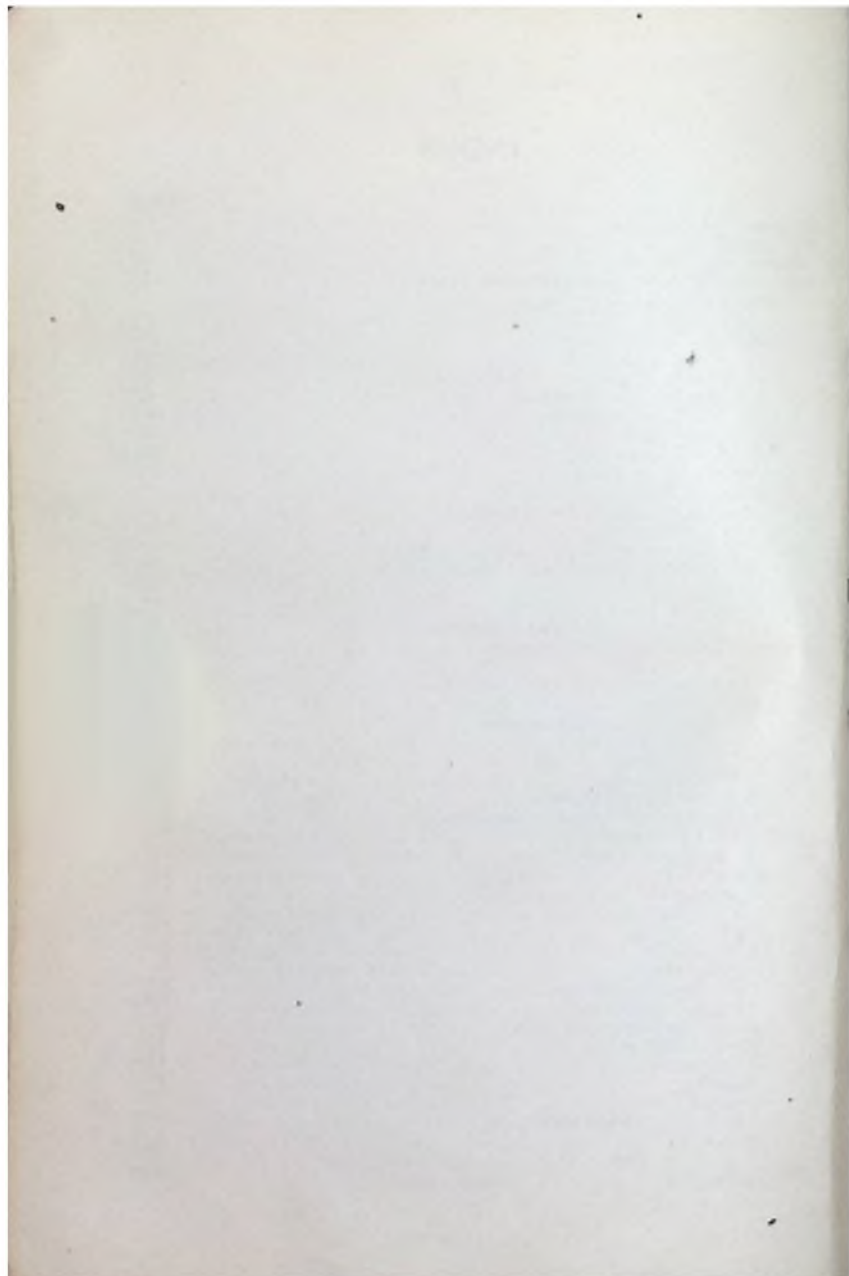
The rules herein set forth govern the railroads operated by the Northern Pacific Railway Company. They take effect April 1, 1926, superseding all previous rules and instructions inconsistent therewith.

Special instructions may be issued by proper authority.

F. E. WILLIAMSON,
Vice President.

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GENERAL NOTICE.

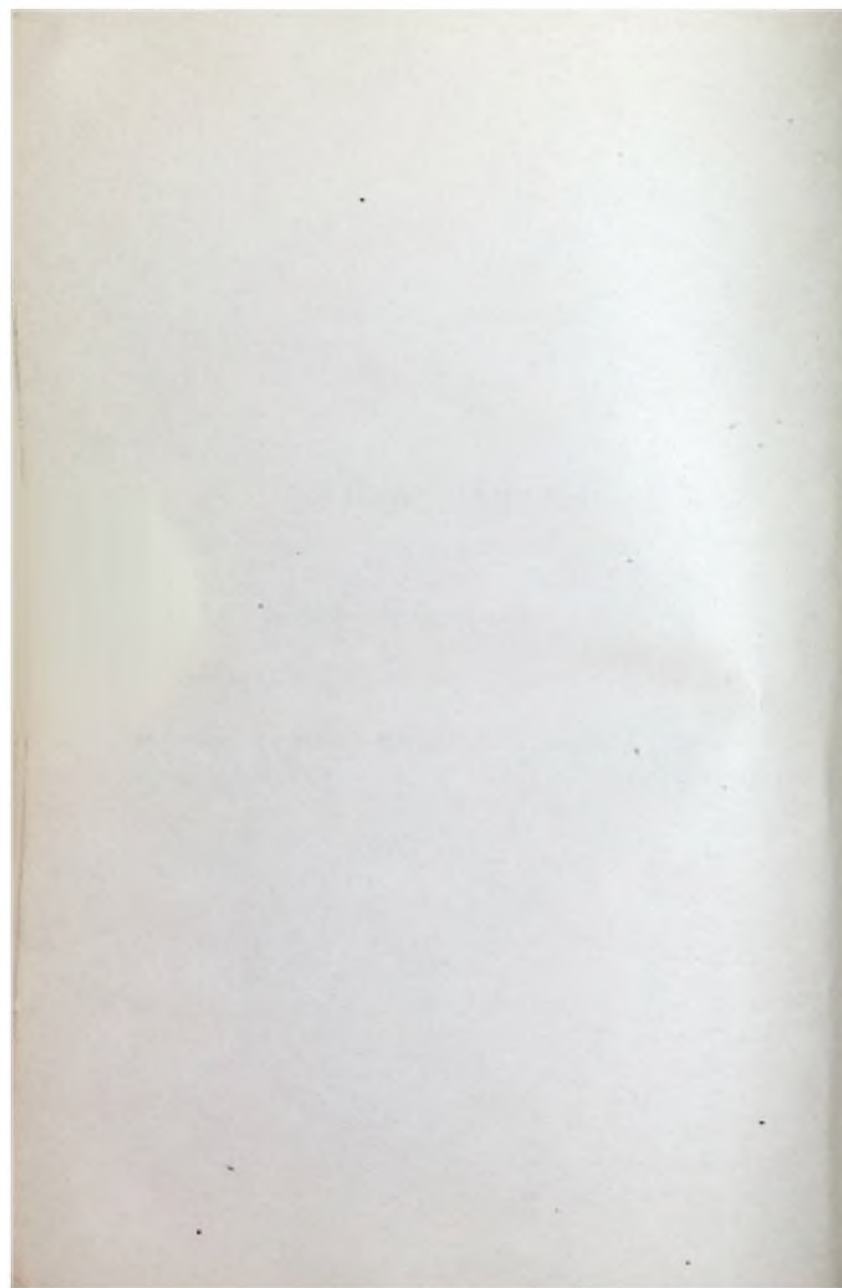
Safety is of the first importance in the discharge of duty.

Obedience to the rules is essential to safety.

To enter or remain in the service is an assurance of willingness to obey the rules.

The service demands the faithful, intelligent and courteous discharge of duty.

To obtain promotion, ability must be shown for greater responsibility.



GENERAL RULES.

A. Employees whose duties are prescribed by these rules must provide themselves with a copy.

Employees whose duties are in any way affected by the timetable must have a copy of the current time-table with them while on duty.

B. Employees must be conversant with and obey the rules and special instructions. If in doubt as to their meaning they must apply to proper authority for an explanation.

C. Employees must pass the required examinations.

D. Persons employed in any service on trains are subject to the rules and special instructions.

E. Employees must render every assistance in their power in carrying out the rules and special instructions and must report to the proper official any violation thereof.

F. Accidents, failure in the supply of water or fuel, defects in track, bridges, signals, or any unusual conditions which may affect the movement of trains, must be promptly reported by wire to the proper authority.

G. The use of intoxicants by employees while on duty is prohibited. Their use, or the frequenting of places where they are sold, is sufficient cause for dismissal.

H. The use of tobacco by employees while on duty in or about passenger stations, or on passenger cars, is prohibited.

J. Employees on duty must wear the prescribed badge and uniform and be neat in appearance.

K. Employees and others authorized to transact business at stations or on or about trains must be orderly and avoid annoyance to patrons.

L. In case of danger to the Company's property employees must unite to protect it.

M. Employees must exercise care to avoid injury to themselves or others by observing the condition of equipment and the tools

which they use in performing their duties and when found defective will, if practicable, put them in safe condition, reporting defects to the proper authority.

They must inform themselves as to the location of structures or obstructions where clearances are close.

They must expect trains to run at any time, on any track, in either direction.

They must not stand on the track in front of an approaching engine or car for the purpose of boarding the same.

DEFINITIONS.

Engine.—A locomotive propelled by any form of energy and used in train or yard service.

Motor Car.—A car propelled by any form of energy and used in train or yard service.

Note.—Where the term "Engine" appears in these rules it applies to either "Engine" or "Motor Car."

Train.—An engine or motor car or more than one engine or motor car coupled, with or without cars, displaying markers.

Regular Train.—A train authorized by a time-table schedule.

Section.—One of two or more trains running on the same schedule displaying signals or for which signals are displayed.

Extra Train.—A train not authorized by a time-table schedule. It may be designated as—

Passenger extra—for passenger train extra;

Stock extra—for stock train extra;

Fruit extra—for fruit train extra;

Preferred extra—for time freight extra;

Work extra—for work train extra;

Engine extra—for light engine extra;

Extra—for any other extra train.

Superior Train.—A train having precedence over another train.

Train of Superior Right.—A train given precedence by train order.

Train of Superior Class.—A train given precedence by time-table.

Train of Superior Direction.—A train given precedence in the direction specified by time-table as between opposing trains of the same class.

Time-Table.—The authority for the movement of regular

trains subject to the rules. It contains the classified schedules of trains with special instructions relating thereto.

Schedule.—That part of a time-table which prescribes class, direction, number and movement for a regular train.

Division.—That portion of a railroad assigned to the supervision of a Superintendent.

Subdivision.—A portion of a division designated by time-table.

Bulletin.—Advice of conditions affecting the movement or safety of trains.

Main Track.—A track extending through yards and between stations, upon which trains are operated by time-table or train order, or both, or the use of which is governed by block signals.

Single Track.—A main track upon which trains are operated in both directions.

Double Track.—Two main tracks, upon one of which the current of traffic is in a specified direction, and upon the other in the opposite direction.

Three or More Tracks.—Three or more main tracks, upon any of which the current of traffic may be in either specified direction.

Current of Traffic.—The movement of trains on a main track, in one direction, specified by the rules.

Station.—A place designated on the time-table by name, at which a train may stop for traffic; or to enter or leave the main track; or from which fixed signals are operated.

Siding.—A track auxiliary to the main track for meeting or passing trains.

Fixed Signal.—A signal of fixed location indicating a condition affecting the movement of a train.

Note to Definition of Fixed Signal.—The definition of a "Fixed Signal" covers such signals as slow boards, stop boards, yard limits, switch, train order, block, interlocking, semaphore, disc, ball or other means for displaying indications that govern the movement of a train.

Yard.—A system of tracks within defined limits provided for the making up of trains, storing of cars and other purposes, over which movements not authorized by time-table, or by train order, may be made, subject to the prescribed signals and rules, or special instructions.

Yard Engine.—An engine assigned to yard service and working within yard limits.

Pilot.—An employe assigned to a train when the engine-man or conductor, or both, are not fully acquainted with the physical characteristics or rules of the railroad, or portion of the railroad, over which the train is to be moved.

Train Register.—A book or form which may be used at designated stations for registering signals displayed, the time of arrival and departure of trains and such other information as may be prescribed.

Restricted Speed.—Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced.

TRAIN RULES
FOR
SINGLE AND DOUBLE TRACK.

Note.—Rules with a prefix “S” are for single track, those with a prefix “D” are for double track. Rules without a prefix are for both Single and Double Track.

Note.—Where the term telegraph, or telegraph office, is used in these rules, it also applies to telephone, or telephone office, in the territory where telephones are used for train dispatching purposes.

STANDARD TIME.

1. Standard Time obtained from an authorized observatory will be transmitted to all points from designated offices at 11 a. m., Central Time, daily.

2. Watches that have been examined and certified to by a designated inspector must be used by conductors, enginemen, brakemen, firemen, yardmasters and switch foremen. The certificate in prescribed form must be renewed and filed with the Superintendent in January and July of each year.

(Form of Certificate.)

CERTIFICATE OF WATCH INSPECTOR.

This is to certify that on.....19.....
the watch of.....
employed as.....
on the Northern Pacific Railway, was examined by me. It is correct and reliable, and, with proper care, should run within a variation of thirty seconds per week.

Name of maker.....

Grade.....

Number of movement.....

Open or hunting case.....

Metal of case.....

Signed,

Inspector.

Address.....

3. Watches of conductors, enginemen and switch foremen must be compared before commencing each day's work, with a clock designated by time-table as a standard time clock. The time when watches are compared must be registered on a prescribed form.

3-a. Conductors and switch foremen must compare their watches with those of their enginemen before commencing each day's work.

Conductors, enginemen and switch foremen whose duties prevent them from having access to a standard time clock must compare their watches daily with each other and with those of conductors and enginemen who have standard time and have registered as provided in Rule 3.

The daily variation of standard time clocks will be recorded on the train sheet by the train dispatcher.

TIME-TABLES.

4. Each time-table, from the moment it takes effect, supersedes the preceding time-table, and its schedules take effect on any subdivision, at the leaving time at their initial stations on such subdivision. But when a schedule of the preceding time-table corresponds in number, class, day of leaving, direction, and initial and terminal stations with a schedule of the new time-table, a train authorized by the preceding time-table will retain its train orders and assume the schedule of the corresponding number of the new time-table.

Schedules on each subdivision date from their initial stations on such subdivision.

Not more than one schedule of the same number and day shall be in effect on any subdivision.

S-5. Not more than two times are given for a train at any station; where one is given, it is, unless otherwise indicated, the leaving time; where two, they are the arriving and the leaving time.

Unless otherwise indicated, the time applies to the switch where an inferior train enters the siding; where there is no siding it applies to the place from which fixed signals are operated; where there is neither siding nor fixed signal, it applies to the place where traffic is received or discharged.

Schedule meeting or passing stations are indicated by figures in full-faced type.

Both the arriving and leaving time of a train are in full-faced type when both are meeting or passing times, or when one or more trains are to meet or pass it between those times.

When trains are to be met or passed at a siding extending between two adjoining stations, the time at each end of the siding will be shown in full-faced type.

The numbers of the trains meeting, passing or being passed, will be shown in small type adjacent to the full-faced type.

D-5. Not more than two times are given for a train at any station; where one is given, it is, unless otherwise indicated, the

leaving time; where two, they are the arriving and the leaving time.

Unless otherwise indicated, the time applies to the switch where an inferior train enters the siding; where there is no siding it applies to the place from which fixed signals are operated; where there is neither siding nor fixed signal, it applies to the place where traffic is received or discharged.

Schedule passing stations are indicated by figures in full-faced type.

Both the arriving and leaving time of a train are in full-faced type when both are passing times, or when one or more trains are to pass it between those times.

When trains are to be passed at a siding extending between two adjoining stations, the time at each end of the siding will be shown in full-faced type.

The numbers of the trains passing or being passed will be shown in small type adjacent to the full-faced type.

6. The following letters when placed before the figures of the schedule indicate:

“s” —Regular stop;

“f” —Flag stop to receive or discharge passengers or freight;

“L” —Leave;

“A” —Arrive.

6-a. The following letters when placed in the columns provided indicate:

“W” —Water;

“C” —Fuel;

“O” —Track scales;

“T” —Turntable;

“Y” —Wye;

“X” —Yard limits;

“D” —Day office only;

“N” —Night office only;

“DN” —Day and night office;

“p” —Telephone.

Time-table will show location of bulletin and register stations.

SIGNALS.

7. Employes whose duties may require them to give signals, must provide themselves with the proper appliances, keep them in good order and ready for immediate use.

7-a. Signals must be used strictly in accordance with the rules, and trainmen, enginemen, and all concerned must keep a constant lookout for them. Those giving signals must locate themselves so as to be plainly seen, and make them so as to be plainly understood. The utmost care must be exercised by trainmen, yardmen and enginemen to avoid taking signals that may be intended for other trains. Unless conductor and engineman are positive that signals given are for them, they will not move their train until communication is made by words. In backing a train, the disappearance from view of trainmen, or light by which signals are given, will be construed as a stop signal.

8. Flags of the prescribed color must be used by day, and lights of the prescribed color by night.

9. Day signals must be displayed from sunrise to sunset, but when day signals cannot be plainly seen, night signals must be used in addition.

Night signals must be displayed from sunset to sunrise.

10. COLOR SIGNALS.

COLOR	INDICATION
(a) Red.	Stop.
(b) Yellow.	Proceed at restricted speed, and for other uses prescribed by the rules.
(c) Green.	Proceed, and for other uses prescribed by the rules.
(d) Green and white.	Flag stop. See Rule 28.
(e) Blue.	See Rule 26.

11. A train finding a fusee burning on or near its track must proceed at restricted speed.

12. HAND, FLAG AND LAMP SIGNALS.

Note.—The hand, or a flag, moved the same as the lamp, as illustrated in the following diagrams, gives the same indication.

12a.



STOP.
Swung across the track.

12b.



REDUCE SPEED.
Held horizontally at arm's length,
when the train is moving.

19

12c.



PROCEED.

Raised and lowered vertically.

12d.



BACK.

Swung vertically in a circle at half arm's length across the track, when the train is standing.

12e.



TRAIN HAS PARTED.

Swung vertically in a circle at arm's length across the track, when the train is running.

12f.

**APPLY AIR BRAKES.**

Swung horizontally above the head, when the train
is standing.

12g.

**RELEASE AIR BRAKES.**

Held at arm's length above the head, when the train
is standing.

12h. Any object waved violently by any one on or near the
track is a signal to stop.

13. Omitted.

14. ENGINE WHISTLE SIGNALS.

Note.—The signals prescribed are illustrated by "o" for short sounds; "—" for longer sounds. The sound of the whistle should be distinct, with intensity and duration proportionate to the distance signal is to be conveyed.

SOUND.	INDICATION.
(a) o	Apply brakes. Stop.
(b) — — —	Release brakes. Proceed.
(c) — o o o	Flagman protect rear of train.
(d) — — — — —	Flagman may return from west, as prescribed by Rule 99.
(e) — — — — —	Flagman may return from east, as prescribed by Rule 99.
(f) — — — —	When running, train parted; to be repeated until answered by the signal prescribed by Rule 12 (e). Answer to 12 (c).
(g) o o	Answer to any signal not otherwise provided for.
(h) o o o	When train is standing, back. Answer to 12 (d) and 16 (c). When train is running, answer to 16 (d).
(j) o o o o	Call for signals.
(k) — o o	To call the attention of yard engines, extra trains or trains of the same or inferior class or inferior right to signals displayed for a following section. If not answered by a train, the train displaying signals must stop and ascertain the cause.
(l) — — — o o	Approaching public crossings at grade and obscure places.
(m) — — — — —	Approaching stations, junctions and railroad crossings at grade.
(n) — — — o	Approaching meeting or waiting points. See Rule S-90.
(o) o — —	Inspect train line for leak or for brakes sticking.
(p) Succession of short sounds.	Alarm for persons or live stock on the track.

15. The explosion of two torpedoes is a signal to reduce speed and look out for a train ahead or obstruction. The explosion of one torpedo will indicate the same as two but the use of two is required.

16. COMMUNICATING SIGNALS.

Note.—The signals prescribed are illustrated by "o" for short sounds; "—" for longer sounds.

SOUND.	INDICATION.
(a) o o	When standing— start.
(b) o o	When running— stop at once.
(c) o o o	When standing— back the train.
(d) o o o	When running— stop at next passenger station.
(e) o o o o	When standing— apply or release air brakes.
(f) o o o o	When running— reduce speed.
(g) o o o o o	When standing— recall flagman.
(h) o o o o o	When running— increase speed.
(j) o o o o o o	Turn steam heat on or off.
(k) —————	When running— brakes sticking; look back for hand signals.

TRAIN SIGNALS.

S-17. The headlight will be displayed to the front of every train by night, but must be concealed when a train turns out to meet another and has stopped clear of the main track, or is standing to meet trains at the end of double track or at junctions. Enginemen must receive a stop signal from the rear of the train before extinguishing headlight after pulling into clear on siding.

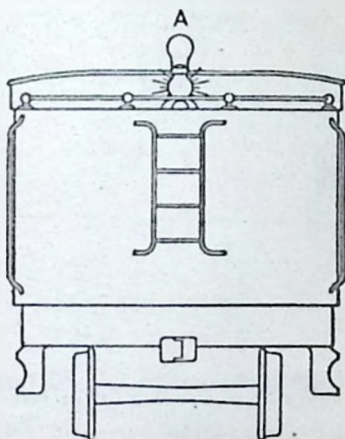
S-17-a. When there are more trains at a meeting point than the siding will hold, the headlight of the leading engine will not be concealed until the main track is clear.

When an engine is running backward a white light must be displayed by night on the rear of the tender.

Note to Rules S-17, D-17, 19, D-19, 20, 21 and 24.—The diagrams are intended to illustrate the general location of the train signals, not the exact manner in which they are to be attached.

Combination lamps with four illuminated colored faces are represented in the diagrams.

FIG. 1.



Engine Running Backward by Night Without Cars, or
at the Front of a Train Pulling Cars.

White light at A.

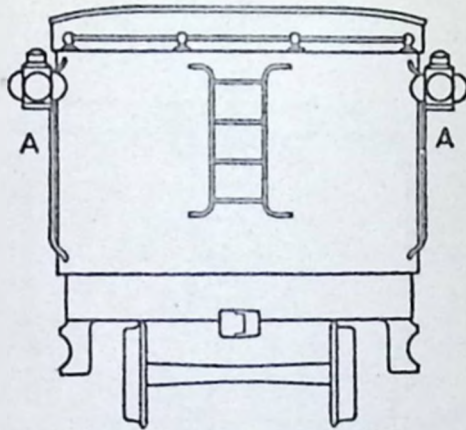
D-17. The headlight will be displayed to the front of every train by night, but must be concealed when a train is standing to meet trains at the end of double track, or at junctions.

When an engine is running backward a white light must be displayed by night on the rear of the tender.

18. Yard engines will display the headlight to the front and rear by night. When not provided with a headlight at the rear, a white light must be displayed. Yard engines will not display markers.

19. The following signals will be displayed to the rear of every train, as markers, to indicate the rear of the train:

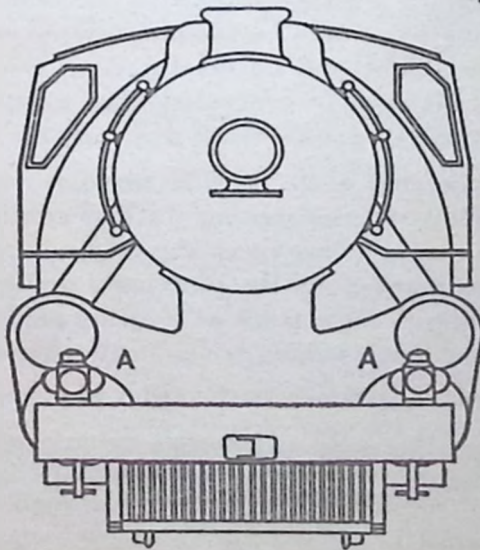
FIG. 2.



Engine Running Forward by Day, Without Cars,
or at the Rear of a Train Pushing Cars.

Marker lamps not lighted, or green flags at AA as
markers.

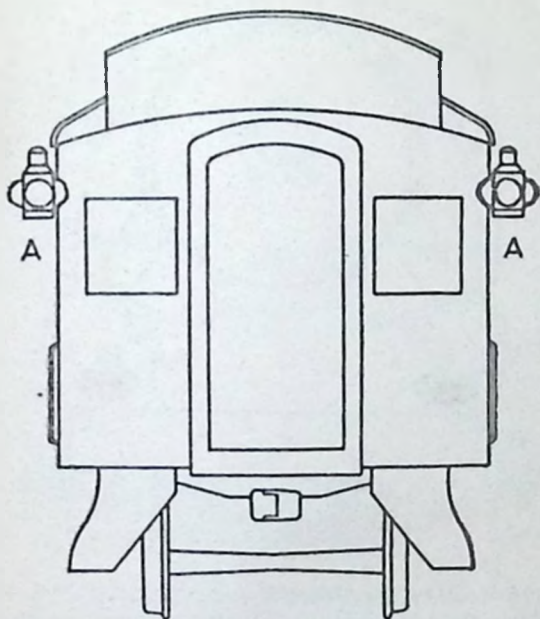
FIG. 3.



Engine Running Backward by Day, Without Cars, or
at the Rear of a Train Pushing Cars.

Marker lamps not lighted, or green flags at AA as
markers.

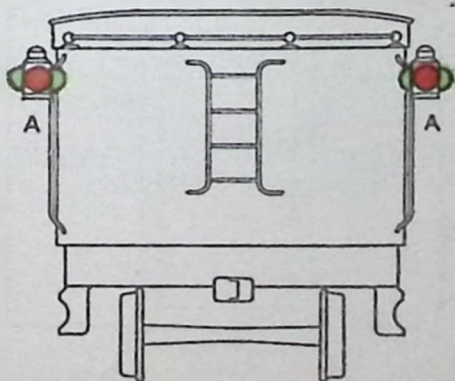
FIG. 4.



Rear of Train by Day.

Marker lamps not lighted, or green flags at AA as markers.

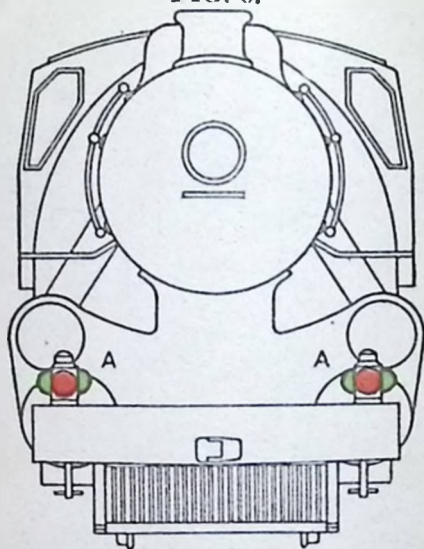
FIG. 5.



Engine Running Forward by Night, Without Cars, or at the Rear of a Train Pushing Cars on Single Track and with the Current of Traffic on Double Track.

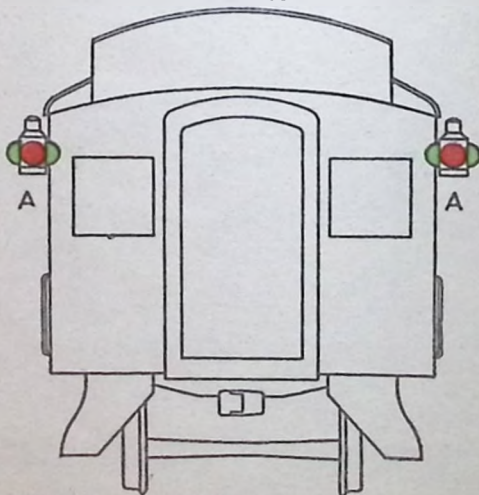
Lights at AA as markers, showing green to the front and side and red to the rear.

FIG. 6.



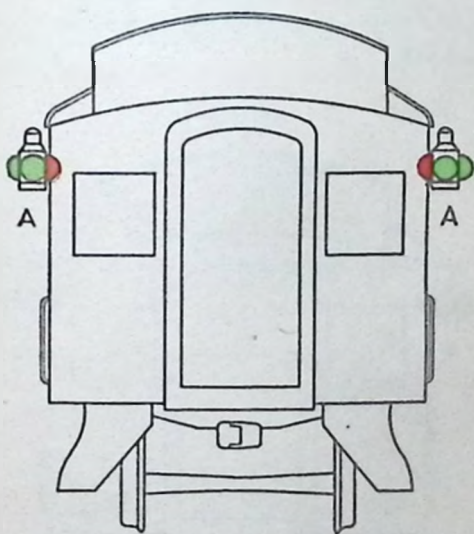
Engine Running Backward by Night, Without Cars, or at the Rear of a Train Pushing Cars.
Lights at A A as markers, showing green to side and in direction engine is moving and red in opposite direction.

FIG. 7.



Rear of Train by Night While Running on Single Track and with the Current of Traffic on Double Track.
Lights at A A as markers, showing green to the front and side and red to the rear.

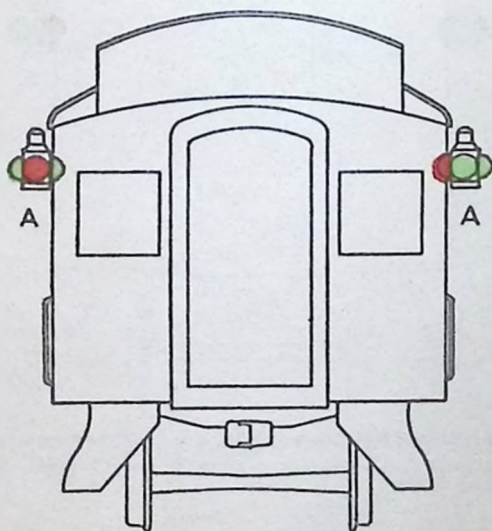
FIG. 8.



Rear of Train by Night When on Siding to be Passed by Another Train.
Lights at A A as markers, showing green toward engine,
side and to rear.

D-19. The following signals will be displayed, one on each side of the rear of every train, as markers, to indicate the rear of the train: By day, green flags, or marker lamps (not lighted); by night, green lights to the front and side and red lights to the rear, except when the train is clear of the main track, when green lights must be displayed to the front, side and rear, and except when a train is turned out against the current of traffic, when green lights must be displayed to the front and side, a green light to the rear on the side next to the main track on which the current of traffic is in the direction the train is moving, and a red light to the rear on the opposite side.

FIG. 9.



(Outside)

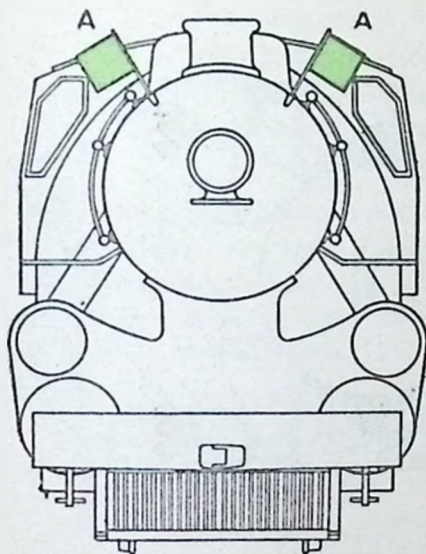
(Between Tracks)

Rear of Train by Night Running Against the Current of Traffic on Double Track.

Lights at AA as markers, showing green to the front and side and green to the rear on the side next to the main track on which the current of traffic is in the direction the train is moving and red to the rear on the opposite side.

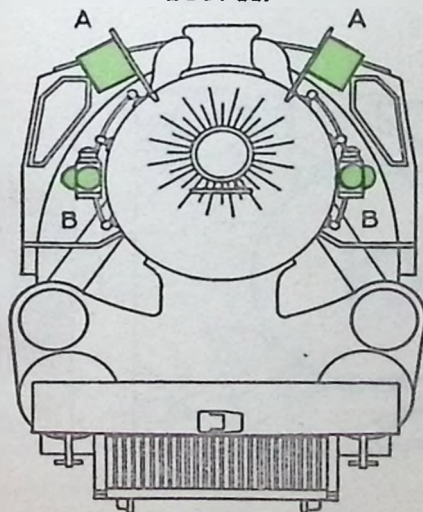
20. All sections except the last will display two green flags, and, in addition, two green lights by night in the places provided for that purpose on the front of the engine.

FIG. 10.



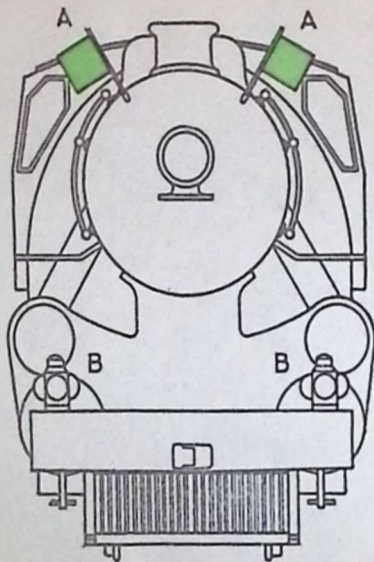
Engine Running Forward by Day Displaying Signals for a following Section.
Green flags at A A.

FIG. 11.



Engine Running Forward by Night Displaying Signals for a following Section.
Green flags at A A and green lights at B B.

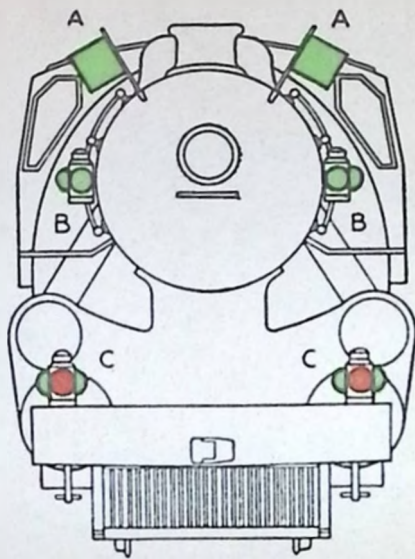
FIG. 12.



Engine Running Backward by Day, Without Cars, or at the Rear of a Train Pushing Cars, and Displaying Signals for a following Section.

Green flags at A A.
Marker lamps not lighted, or green flags at B B as markers.

FIG. 13.



Engine Running Backward by Night, Without Cars, or at the Rear of a Train Pushing Cars, and Displaying Signals for a following Section.

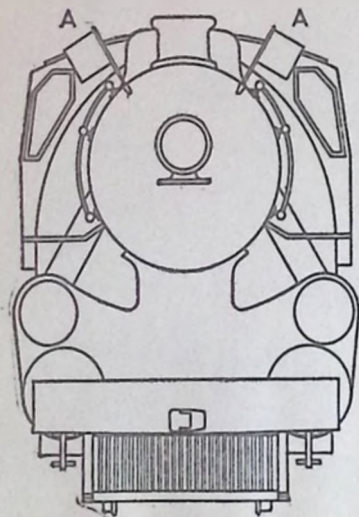
Green flags at A A.
Green lights at B B.
Lights at C C as markers, showing green to side and in direction engine is moving and red in opposite direction.

20-a. Enginemen, when displaying green signals, will call attention of yard engines, conductors and enginemen of extra trains and trains of the same or inferior class or inferior right, to signals displayed as per Rule 14 (k), which must be acknowledged as per Rule 14 (g).

When trains being met or passed also have green signals, they will acknowledge signals called, and then, if required, call attention to their own signals, which must be acknowledged. The train being met or passed is not relieved from responsibility for not noticing signals on passing trains.

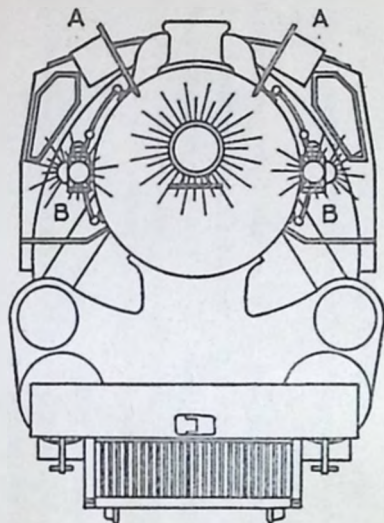
21. Extra trains will display two white flags and, in addition, two white lights by night, in the places provided for that purpose on the front of the engine.

FIG. 14.



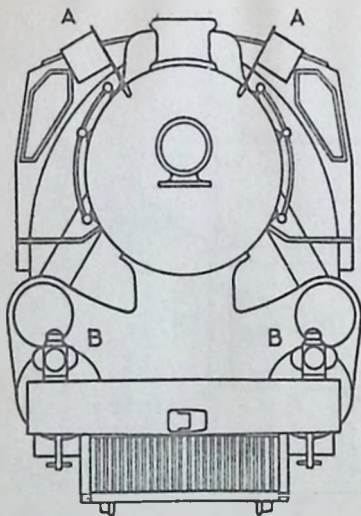
Engine Running Forward by Day as an Extra Train.
White flags at A A.

FIG. 15.



Engine Running Forward by Night as an Extra Train.
White flags at A A and white lights at B B.

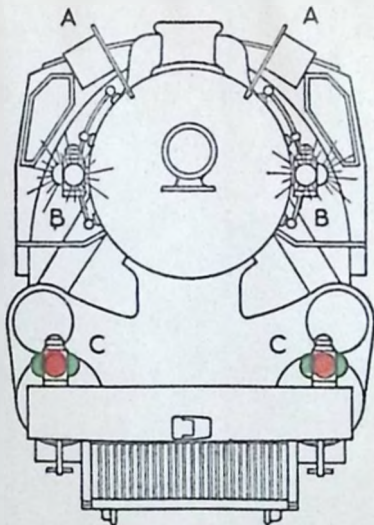
FIG. 16.



Engine Running Backward by Day as an Extra Train, Without Cars,
or at the Rear of a Train Pushing Cars.

White flags at A A.
Marker lamps not lighted, or green flags at B B as markers.

FIG. 17.



Engine Running Backward by Night as an Extra Train, Without Cars,
or at the Rear of a Train Pushing Cars.

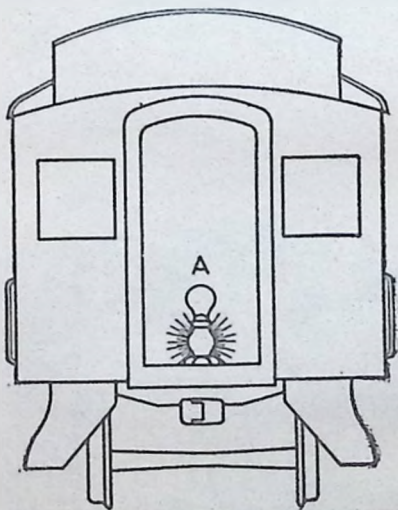
White flags at A A.
White lights at B B.
Lights at C C as markers, showing green to side and in
direction engine is moving and red in opposite direction.

22. When two or more engines are coupled, each engine shall display the signals as prescribed by Rules 20 and 21.

23. One flag or light displayed where in Rules 19, *D-19*, 20 and 21 two are prescribed will indicate the same as two; but the proper display of all train signals is required.

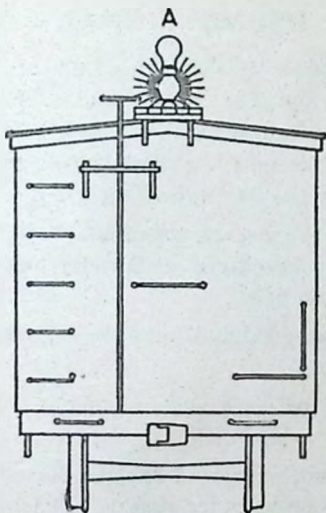
24. When cars are pushed by an engine except when shifting or making up trains in yards, a white light must be displayed on the front of the leading car by night.

FIG. 18.



Passenger Cars Being Pushed by an Engine by Night.
White light on front of leading car at A.

FIG. 19.



Freight Cars Being Pushed by an Engine by Night.
White light on front of leading car at A.

25. Each car of a passenger train must be connected with the engine by a communicating signal appliance.

26. A blue signal, displayed at one or both ends of an engine, car or train, indicates that workmen are under or about it; when thus protected it must not be coupled to or moved. Each class of workmen will display the blue signals and the same workmen are alone authorized to remove them. Other equipment must not be placed on the same track so as to intercept the view of the blue signals, without first notifying the workmen.

When emergency repair work is to be done under or about cars in a train and a blue signal is not available; the engineman and fireman will be notified and protection must be given these engaged in making the repairs.

USE OF SIGNALS.

27. A signal imperfectly displayed, or the absence of a signal at a place where a signal is usually shown, must be regarded as the most restrictive indication that can be given by that signal, except that when the light is absent from a night signal a train will be governed by the day indication when it is plainly seen.

Conductors and enginemen using a switch where the switch light is imperfectly displayed or absent, must, if practicable, correct or replace the light.

Imperfectly displayed signals must be reported to the Superintendent.

27-a. Lights will be displayed at night on all main line train order signals.

On branch line subdivisions of light traffic, where lights are not used on day office train order signals, all trains will positively ascertain position of signal before passing.

28. A green and white signal will be used to stop a train only at the flag stations indicated on its schedule.

29. When a signal, except a fixed signal, is given to stop a train, it must, unless otherwise provided, be acknowledged as prescribed by Rule 14 (g) or (h).

30. The engine bell must be rung when an engine is about to move and while approaching and passing public crossings at grade.

31. The whistle must be sounded at all places where required by rule or by law.

32. The unnecessary use of either the whistle or the bell is prohibited.

33. Watchmen stationed at highway crossings must use stop signals when necessary to stop trains. They will use standard highway signals to stop highway traffic.

34. All members of train and engine crews must, when practi-

cable, communicate to each other by its name the indication of all signals affecting the movement of their train.

35. The following signals will be used by flagmen:

Day signals— A red flag,
Torpedoes and
Fusees.

Night signals— A red light,
A white light,
Torpedoes and
Fusees.

SUPERIORITY OF TRAINS.

S-71. A train is superior to another train by right, class, or direction.

Right is conferred by train order; class and direction by time-table.

Right is superior to class or direction.

Direction is superior as between trains of the same class.

D-71. A train is superior to another train by right or class.

Right is conferred by train order; class by time-table.

Right is superior to class.

S-72. Trains of the first class are superior to those of the second; trains of the second class are superior to those of the third; and so on.

Trains in the direction specified by the time-table are superior to trains of the same class in the opposite direction.

D-72. Trains of the first class are superior to those of the second; trains of the second class are superior to those of the third; and so on.

73. Extra trains are inferior to regular trains.

MOVEMENT OF TRAINS.

82. Time-table schedules, unless fulfilled, are in effect for twelve hours after their time at each station.

Regular trains more than twelve hours behind either their schedule arriving or leaving time at any station lose both right and schedule and can thereafter proceed only as authorized by train order.

S-83. A train must not leave its initial station on any subdivision, or a junction, or pass from double to single track, until it has been ascertained whether all trains due, which are superior, or of the same class, have arrived or left.

83-a. Conductors of all trains, or enginemen of engines without conductors, will register their trains in the train register, at points designated by time-table.

At points where enginemen consult register before departing, they will fill in their names and engine numbers, conductors completing the register of departure.

At points designated by the Superintendent, enginemen will not consult register, except when running without conductor, but will be furnished on Form 602, a copy of the register over the signature of the operator or conductor, showing register of superior trains.

Unless otherwise provided a train must not leave a register station which has telegraph service without a clearance card during the assigned hours of telegraph service at that station.

83-b. A train must be authorized by clearance card to use a schedule from its initial station or starting point through to its terminating station on that division.

Operators must not issue a clearance card to a train at its initial station or starting point on any subdivision, without authority from the train dispatcher, except in case of wire failure.

A train returning to its regular route after having been detoured must not resume its schedule unless directed by train

order or clearance card to do so. Such clearance card must not be issued without authority from the train dispatcher.

83-c. Bulletins will be posted in books or on boards provided for the purpose.

Conductors and enginemen must consult bulletins before departing, receipting for the last and all previous bulletins by recording the number of the last bulletin in the place provided, and will be held accountable for all bulletins posted prior to their departure.

The time posted will be endorsed on the face of each bulletin, and the officer issuing advised that bulletin has been posted. Telegraph bulletins affecting the safety of trains must be repeated to insure accuracy.

D-83. A train must not leave its initial station on any subdivision, or a junction, until it has been ascertained whether all superior trains due have left.

84. A train must not start until the proper signal is given.

85. When a train of one schedule is on the time of another schedule of the same class in the same direction, it will proceed on its own schedule.

Trains of one schedule may pass trains of another schedule of the same class, and extra trains may pass and run ahead of second and third class trains and extra trains.

Third class trains may pass and run ahead of second class trains.

A section may pass and run ahead of another section of the same schedule, first exchanging train orders, signals and numbers with the section to be passed. The change in sections must be reported from the next available point of communication.

86. An inferior train must clear the time of a superior train, in the same direction, not less than five minutes; but in territory not governed by automatic block signals, must be clear at the time a first class train, in the same direction, is due to leave the next station in the rear where time is shown.

S-87. An inferior train must keep out of the way of opposing

superior trains and failing to clear the main track by the time required by rule must be protected as prescribed by Rule 99.

Extra trains must clear the time of opposing regular trains not less than five minutes unless otherwise provided, and will be governed by train orders with respect to opposing extra trains.

S-88. At meeting points between trains of the same class, the inferior train must clear the main track before the leaving time of the superior train.

At meeting points between extra trains, the train in the inferior time-table direction must take the siding unless otherwise provided.

Trains must pull into the siding when practicable; if necessary to back in, the train must first be protected as prescribed by Rule 99, unless otherwise provided.

S-88-a. At lap sidings, unless otherwise provided, trains taking siding must head in at the lap.

Sidings blocked by occupied outfit cars must not be used for the meeting or passing of trains when it can be avoided.

S-89. At meeting points between trains of different classes the inferior train must take the siding and clear the superior train at least five minutes, and must pull into the siding when practicable. If necessary to back in, the train must first be protected as prescribed by Rule 99, unless otherwise provided.

S-90. Trains must stop at schedule meeting points, if the train to be met is of the same class unless the switch is right and the track clear.

When the expected train of the same class is not found at the schedule meeting point, the superior train must approach all sidings prepared to stop, until the expected train is met.

Train must stop clear of the switch used by the train to be met in going on the siding.

The engineman of each train will give signal 14 (n) at least one mile before reaching a meeting or waiting point. Should the engineman fail to give signal 14 (n) as herein prescribed, the conductor must take immediate action to stop the train.

91. Unless some form of block signals is used, trains in the same direction must keep at least five minutes apart, except in closing up at stations.

92. A train must not arrive at a station in advance of its schedule arriving time.

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

S-93. Within yard limits the main track may be used, protecting against first class trains.

Second and third class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear.

D-93. Within yard limits the main tracks may be used, protecting against first class trains.

Second and third class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear.

First class trains running against the current of traffic must move within yard limits prepared to stop unless the main track is seen or known to be clear.

S-94. A train which overtakes another train so disabled that it cannot proceed, will pass it, if practicable, and if necessary will assume the schedule and take the train orders of the disabled train, proceed to the next available point of communication, and there report to the Superintendent. The disabled train will assume the right or schedule and take the train orders of the last train with which it has exchanged, and will when able proceed to and report from the next available point of communication.

When a train unable to proceed against the right or schedule of an opposing train is overtaken between communicating stations by an inferior train or a train of the same class having right or schedule which permits it to proceed, the delayed train may, after proper understanding with the following train, precede it to the next available point of communication, where it must report to the Superintendent. When opposing trains are met under these

circumstances, it must be fully explained to them by the leading train that the expected train is following.

S-94-a. Should a train be held by another between communicating stations the conductor of the train thus delayed may require the first train passing him to carry a flagman on the engine to the next available point of communication if an important train will not be delayed thereby. Precautions must be taken to stop in such manner as to block the switch until the opposing trains are notified that they are flagged and held for the following train.

D-94. A train which overtakes a superior train so disabled that it cannot proceed will pass it, if practicable, and if necessary will assume the schedule and take the train orders of the disabled train, proceed to the next available point of communication, and there report to the Superintendent. The disabled train will assume the schedule and take the train orders of the last train with which it has exchanged, and will, when able, proceed to and report from the next available point of communication.

95. Two or more sections may be run on the same schedule.

Each section has equal time-table authority.

A train must not display signals for a following section, except as prescribed by Rule 85, without orders from the Superintendent.

S-96. When signals displayed for a section are taken down at any point before that section arrives, the conductor, if there be no other provision, will arrange in writing with the operator, or if there be no operator, with the switch tender, or in the absence of both, with a flagman left there for that purpose, to notify all opposing trains that the section for which signals were displayed has not arrived, and, in addition, the conductor must notify all opposing inferior trains, or trains of the same class, until the fact that the signals were carried has been registered at the next register station.

S-97. Extra trains must not run without train orders.

D-97. Extra trains may be run with the current of traffic without train orders provided they secure proper clearance card from

the operator. The operator must secure authority from the train dispatcher before issuing clearance card.

Work extras must move with the current of traffic unless otherwise directed.

98. Trains must approach the end of double track, junctions, railroad crossings at grade, and draw-bridges, prepared to stop, unless the switches are properly lined, signals indicate proceed, and track is clear. Where required by law, trains must stop.

99. When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes, and when necessary, in addition, displaying lighted fuses.

When signal 14 (d) or 14 (e) has been given to the flagman, and safety to the train will permit, he may return. When the conditions require he will leave the torpedoes and a lighted fusee.

The front of the train must be protected in the same way when necessary by the front brakeman, fireman, or other competent employe.

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fusees must be thrown off at proper intervals.

When day signals cannot be plainly seen, owing to weather or other conditions, night signals must also be used.

Conductors and enginemen are responsible for the protection of their trains.

Flagman's signals:

Day signals— A red flag,
Torpedoes and
Fusees.

Night signals— A red light,
A white light,
Torpedoes and
Fusees.

99-a. When it is known by engineman that his train will be delayed, he will immediately whistle out flagman, as per Rule 14 (c).

100. Omitted.

101. Trains must be fully protected against any known condition which interferes with their safe passage at normal speed.

When conditions are found which may interfere with the safe passage of trains at normal speed and no protection has been provided, such action must be taken as will insure safety.

S-102. If a train should part while in motion, trainmen must, if possible, prevent damage to the detached portions. The signals prescribed by Rules 12 (c) and 14 (f) must be given.

The detached portion must not be moved or passed until the front portion comes back.

D-102. If a train should part while in motion, trainmen must, if possible, prevent damage to the detached portions. The signals prescribed by Rules 12 (c) and 14 (f) must be given.

The detached portion must not be moved or passed until the front portion comes back.

The engineman and trainmen of the front portion must give the train-parted signal to trains running on an adjacent track. A train receiving this signal or being otherwise notified that a train on an adjacent track has parted, must immediately reduce speed and proceed at restricted speed until the separated train is passed.

When a train is disabled so it may obstruct an adjacent track, trains on that track must be stopped.

103. When cars are pushed by an engine except when shifting or making up trains in yards, a trainman must take a conspicuous position on the front of the leading car and when shifting over public crossings at grade not protected by a watchman, a member of the crew must protect the crossing.

104. Conductors are responsible for the position of switches used by them and their trainmen, except where switch tenders are stationed. Switches must be left in proper position after having been used.

A switch must not be left open for a following train unless in charge of a trainman of such train.

When practicable, the engineman must see that the switches nearest the engine are properly set.

When a train or engine is waiting to cross from one track to another and during the approach or passage of a train on tracks involved, all switches connected with the movement must be secured in the normal position.

S-104-a. Employes must stand on the opposite side of the track if practicable and keep at least twenty feet from the switch stand while a train is closely approaching or passing over a switch.

D-104-a. Employes must stand at least twenty feet from the switch stand while a train is closely approaching or passing over a switch.

105. Trains using a siding must proceed, expecting to find it occupied by other trains.

Sidings of an assigned direction must not be used in a reverse direction unless authorized by the Superintendent or in an emergency under flag protection.

106. Both the conductor and the engineman are responsible for the safety of the train and the observance of the rules, and, under conditions not provided for by the rules, must take every precaution for protection.

107. Trains must run at restricted speed in passing a train receiving or discharging passengers at a station, and, except where proper safeguards are provided or the movement is otherwise protected, must not pass between it and the platform at which the passengers are being received or discharged.

108. In case of doubt or uncertainty the safe course must be taken.

D-151. Trains must keep to the right unless otherwise provided.

D-152. When a train crosses over to or obstructs the other track, unless otherwise provided it must first be protected as prescribed by Rule 99 in both directions on that track.

RULES FOR MOVEMENT BY TRAIN ORDERS.

201. For movements not provided for by time-table, train orders will be issued by authority and over the signature of the Superintendent. They must contain neither information nor instructions not essential to such movements.

They must be brief and clear; in the prescribed forms when applicable; and without erasure, alteration or interlineation.

Figures in train orders must not be surrounded by brackets, circles or other characters.

202. Each train order must be given in the same words to all employes or trains addressed.

203. Train orders must be numbered consecutively each day, beginning at midnight.

204. Train orders must be addressed to those who are to execute them, naming the place at which each is to receive his copy. Those for a train must be addressed to the conductor and engineer, and also to any one who acts as its pilot. A copy for each employe addressed together with a clearance card must be supplied by the operator.

Orders addressed to operators restricting the movement of trains must be respected by conductors and enginemen the same as if addressed to them.

205. Each train order must be written in full in a book provided for the purpose at the office of the Superintendent; and with it recorded the names of those who have signed for the order; the time and the signals which show when and from what offices the order was repeated and the responses transmitted; and the train dispatcher's initials. These records must be made at once, and never from memory or memoranda.

206. In train orders regular trains will be designated by number

as "No. 10," and sections as "Second 10." Extra trains will be designated by engine numbers, and the direction as "Extra 798, 'East' or 'West.'" For the movement of an engine of another company the initials as well as the engine number will be used.

Even hours as "10 00 A. M." must not be used in stating time in train orders.

In transmitting and repeating train orders by telephone, numerals one to nine, inclusive, and all stations in the body of an order will be spelled letter by letter and then plainly pronounced, thus: O-N-E, 1; F-I-V-E, 5; A-U-R-O-R-A, Aurora. Time in the body of an order will be spelled letter by letter and then plainly pronounced, thus: T-E-N T-H-I-R-T-Y F-I-V-E, 10 35; other numerals above nine, and time in the body of schedule orders, Form G, Example 3, will be plainly pronounced and then the whole number pronounced, thus: 6-0-5, six o five, 1-2-4-0, twelve forty, etc.

The figure O will be pronounced as though spelled Oh.

The letters duplicating names of stations and numerals will not be written in the order book nor upon train orders.

When train orders are transmitted by telegraph, the train dispatcher must underscore each word and figure in the body of the order at the time it is repeated. When transmitted by telephone he must write the order as he transmits it and underscore as prescribed above.

206-a. When two or more engines are coupled the number of the leading engine only will be used in train orders.

207. To transmit a train order, the signal "19" followed by the direction must be given to each office addressed, the number of copies being stated, if more or less than three— thus, "19 West, copy 5," or "19 East, copy 2."

S-208. A train order to be sent to two or more offices must be transmitted simultaneously to as many of them as practicable. When not sent simultaneously to all, the order must be sent first to the superior train.

The several addresses must be in the order of superiority of trains, each office taking its proper address, and when practicable

must, except in automatic block signal territory, include the operator at the meeting or waiting point.

Copies of the order addressed to the operator at the meeting or waiting point must be delivered to the trains affected until all have arrived from one direction.

A train order must not be sent to a superior train at the meeting or waiting point if it can be avoided. When an order is so sent, the fact will be stated in the order and special precautions must be taken to insure safety.

D-208. A train order to be sent to two or more offices must be transmitted simultaneously to as many of them as practicable. When not sent simultaneously to all, the order must be sent first to the superior train.

The several addresses must be in the order of superiority of trains, each office taking its proper address.

209. Operators receiving train orders must write or typewrite them in manifold during transmission. If the requisite number of copies cannot be made at one writing they must make others from the original copy and repeat to the train dispatcher from the new copies each time additional copies are made. They must retain a copy of each train order. The time, complete, and the signature of the operator must be in his handwriting.

210. Omitted.

211. When a train order has been transmitted, operators must, unless otherwise directed, repeat it at once from the manifold copy, in the succession in which the several offices have been addressed. Each operator receiving the order should observe whether the others repeat correctly. When the order has been repeated correctly by an operator, the response "complete," and the time, with the initials of the Superintendent, will be given by the train dispatcher. The operator receiving this response will then write on each copy the word "complete," the time, and his last name in full, and personally deliver a copy to each person addressed. But when delivery to engineman will take the operator from the immediate vicinity of his office, the engineman's copy will be delivered by the conductor or brakeman.

When a train order restricting the superiority of a train is issued for it at the point where such superiority is restricted, the train must be brought to a stop before delivery of the order.

Enginemmen must show train orders to firemen and when practicable to forward trainmen. Conductors must show train orders when practicable to trainmen.

212. When so directed by the train dispatcher, a train order may be acknowledged before repeating, by the operator responding: "X; Number of Train Order to Train Number," with the operator's initials and office signal. The operator must then write on the order his initials and the time.

213. "Complete" must not be given to a train order for delivery to an inferior train until the order has been repeated or the "X" response sent by the operator who receives the order for the superior train.

214. When a train order has been repeated or "X" response sent, and before "complete" has been given, the order must be treated as a holding order for the train addressed, but must not be otherwise acted on until "complete" has been given.

If the line fail before an office has repeated an order or has sent the "X" response, the order at that office is of no effect and must be there treated as if it had not been sent.

215. Omitted.

216. For train orders delivered by the train dispatcher the requirements as to the record and delivery are the same as at other offices.

217. A train order to be delivered to a train at a point not a train order office, or at one at which the office is closed, must be addressed to

"C. and E. at, care of" and when "complete" is given will be forwarded and delivered by the conductor or other person in whose care it is addressed, who must be supplied with copies for the conductor and engineman addressed, and when the superiority of their train is thereby restricted, a copy upon which he shall take their signatures. This copy he must deliver to the first operator accessible, who must pre-

serve it and at once transmit the signatures of the conductor and engineman to the train dispatcher.

Orders so delivered must be acted on as if "complete" had been given in the usual way.

For orders which are sent in the manner herein provided to a train, the superiority of which is thereby restricted, "complete" must not be given to an inferior train until the signatures of the conductor and engineman of the superior train have been sent to the Superintendent.

217-a. When delivery of a train order, as provided in Rule 217, is to be made by another train, the train order must be addressed in care of conductor and engineman of delivering train, both supplied with copies and the conductor of delivering train will be held responsible for the proper delivery, and the engineman held responsible for stopping to enable conductor to deliver the train order.

218. When a train is named in a train order by its schedule number alone, all sections of that schedule are included, and each must have copies delivered to it.

219. An operator must not repeat or give the "X" response to a train order for a train which has been cleared or of which the engine has passed his train-order signal until he has obtained the signatures of the conductor and engineman to the order.

220. Train orders once in effect continue so until fulfilled, superseded or annulled. Any part of an order specifying a particular movement may be either superseded or annulled.

Orders held by or issued for or any part of an order relating to a regular train become void when such train loses both right and schedule as prescribed by Rules 4 and 82, or is annulled.

When a conductor or engineman, or both, is relieved before the completion of a trip, all train orders and instructions held must be delivered to the relieving conductor or engineman. Such orders or instructions must be compared by the conductor and engineman before proceeding.

**221. THREE POSITION SEMAPHORE
TRAIN ORDER SIGNALS.**

The following signals will appear where conditions require their use.

Fig. A



**INDICATION—Stop, and report for Train Orders.
Name—STOP SIGNAL.**

Fig. B



**INDICATION—Proceed.
Name—CLEAR SIGNAL.**

Fig. C



INDICATION—Caution: Proceed under Clearance Card or Train Order and Clearance Card.

Name—RESTRICTING SIGNAL.

TWO POSITION TRAIN ORDER SIGNALS.**Fig. D**

The following signals will appear where conditions require their use.



**INDICATION—Stop, and Report for Train Orders.
Name—STOP SIGNAL.**

Fig. E

**INDICATION—Proceed.
Name—CLEAR SIGNAL.**

221 (A). Omitted.

221 (B). A fixed signal must be used at each train-order office, except subdivision terminals, register stations for all trains, and points covered by special instructions, which shall indicate "stop" when trains are to be stopped for orders. When there are no orders the signal must indicate "proceed."

Where a three-position semaphore is used, the "caution" position may be used for train orders except when the order is addressed to the operator at the meeting or waiting point as provided in Rule 208, or when the order restricts the superiority of a train and is sent to it at the point where such superiority is restricted. In such cases the train dispatcher must instruct the operator to display the "stop signal."

When an operator receives a signal "19" followed by the direction, he must immediately display the "stop signal" or "caution signal" for the direction indicated and then reply "stop displayed" or "caution displayed," adding the direction; and until the orders have been delivered or annulled the signal must not be restored to "proceed." While "stop" or "caution" is indicated trains must not proceed without a clearance card.

Operators must have the proper appliances for hand signaling ready for immediate use if the fixed signal should fail to work properly. If a signal is not displayed at a night office, trains which have not been notified must stop and ascertain the cause, and report the facts to the Superintendent from the next available point of communication.

Where the semaphore is used, the governing arm is displayed to the right of the signal mast as seen from an approaching train and indicates "stop" when horizontal, "caution" when diagonally upward, and "proceed" when vertical, or diagonally downward, and on double track, governs trains moving against the current of traffic the same as if they were moving with the current of traffic.

221-c. Before delivering train orders to a train, the operator must fill out a clearance card, placing thereon the numbers of all train orders for that train, and repeat from the clearance card the address and order numbers to the train dispatcher, who will make

a record of same in the train-order book, and if they are correct, will repeat them, giving "O. K." and the Superintendent's initials, which the operator will endorse with the time on the clearance card.

When a clearance card is delivered to a train for which there are no orders, the "O. K." and the Superintendent's initials will not be endorsed on the clearance card.

After the train dispatcher has given "O. K." to the clearance card for a train, he must not send any additional orders to such train at that station until the clearance card is in possession of the operator.

In case of wire failure making it impossible to communicate with the train dispatcher, the operator will fill out the clearance card in the usual manner and endorse "wire failure" on the clearance card. When wire service is restored, the operator will notify the train dispatcher of the train and time cleared and the numbers of the orders delivered.

Operators must make manifold copies of clearance card at one writing and preserve a copy.

222. Operators must promptly record and report to the Superintendent the time of arrival and departure of all trains and the direction of extra trains.

223. The following signals and abbreviations may be used:

Initials for signature of the Superintendent.

Such office and other signals as are arranged by the Superintendent.

C & E— for Conductor and Engineman.

X— Train will be held until train order is made "complete."

Com— for Complete.

O S— Train Report.

No— for Number.

Eng— for Engine.

Sec— for Section.

Psg— for Passenger.

Pfd— for Preferred.

Frt— for Freight.

Mins— for Minutes.

Jet— for Junction.

Dispr— for Train Dispatcher.

Opr— for Operator.

19— to clear the line for Train Orders, and for Operators to ask for Train Orders.

S D— for "Stop Displayed."

Yel— for "Caution Displayed."

The usual abbreviations for the names of the months and stations.

FORMS OF TRAIN ORDERS.

Note.—In the forms of train orders, the words and figures in italics are examples, indicating the manner in which the orders are to be filled out.

Orders specifying extras may be varied by stating the kind of extra.

S-A.

Fixing Meeting Points for Opposing Trains.

- (1.) *No 2* meet *No 1* at *B*.
No 4 meet *Second 3* at *B*.
No 5 meet *Extra 95 east* at *B*.
Extra 652 east meet *Extra 231 west* at *B*.
 - (2.) *No 2* and *Second 4* meet *Nos 1* and *3* at *C* and *Extra 95 west* at *D* (and so on).
No 1 meet *No 2* at *B* *Second 4* at *C* and *Extra 95 east* at *D*.
-

Trains receiving these orders will run with respect to each other to the designated points and there meet in the manner prescribed by the rules.

B.

Directing a Train to Pass or Run Ahead of Another Train.

- (1.) *No 1* pass *No 3* at *K*.
 Both trains will run according to rule to the designated point and there arrange for the rear train to pass promptly.
- (2.) *No 6* pass *No 4* when overtaken.
 Both trains will run according to rule until the second-named train is overtaken and then arrange for the rear train to pass promptly.
- (3.) *Extra 594 east* run ahead of *No 6 M* to *B*.

The first-named train will run ahead of the second-named train between the points designated.

- (4.) *Extra 95 west* run ahead of *No 3 B* until overtaken.

The first-named train will run ahead of the second-named train from the designated point until overtaken, and then arrange for the rear train to pass promptly.

- (5.) *Psgr Extra 25 west* pass *No 3* at *K* and run ahead of *No 7 M* to *Z*.
-

When an inferior train receives an order to pass a superior train, right is conferred to run ahead of the train passed from the designated point. Unless some form of block signals is used, the following train will look out for the designated train ahead until the order is fulfilled.

S-C.

Giving Right Over an Opposing Train.

- (1.) *No 1* has right over *No 2 G* to *X*.

If the second-named train reaches the point last named before the other arrives, it may proceed, keeping clear of the opposing train as many minutes as such train was before required to clear it under the rules. If the first-named train is met between the designated points, the conductor of the second-named train must inform it of his arrival.

- (2.) *Extra 37 east* has right over *No 3 F* to *A*.

The regular train must not go beyond the point last named until the extra train has arrived, unless directed by train order to do so.

- (3.) *Extra 38 west* has right over *Extra 37 east A* to *G*.

The first-named train must not go beyond the point last named until the last-named train has arrived, unless directed by train order to do so.

These orders give right to the train first named over the other train between the points named. If the trains meet at either of the designated points, the first-named train must take the siding, unless the order otherwise prescribes.

S-E.

Time Orders.

- (1.) *No 1 run 50 mins late A to G.*

This makes the schedule time of the train named, between the stations mentioned, as much later as stated in the order, and any other train receiving the order is required to run with respect to this later time as before required to run with respect to the regular schedule time. The time in the order should be such as can be easily added to the schedule time.

- (2.) *No 1 run 50 mins late A to G and 20 mins late G to K, etc.*

This makes the schedule time of the train named between the stations mentioned, as much later as stated in the order, and any other train receiving the order is required to run with respect to this later time as before required to run with respect to the regular schedule time. The time in the order should be such as can be easily added to the schedule time.

- (3.) *No 2 wait at H until 9 59 a m for No 1.*

The first-named train must not pass the designated point before the time given, unless the other train has arrived. The train last named is required to run with respect to the time specified, at the designated point or any intermediate station where schedule time is earlier than the time specified in the order, as before required to run with respect to the schedule time of the train first named.

- (4.) *Nos 2 and 4 wait at
N until 9 59 a m
P until 10 30 a m
R until 10 55 a m, etc.*

The train, or trains, named must not pass the designated points before the times given. Other trains receiving the order are required to run with respect to the time specified at the designated points or any intermediate station where schedule time is earlier than the time specified in the order, as before required to run with respect to the schedule time of the train, or trains, named.

-
- (5.) *Extra 77 east run 30 mins late on order No 1.*
 (6.) *Extra 77 east run 30 mins late A to C and 20 mins late C to E on order No 1.*

These may be used in connection with an extra train created by example (3) of Form G and the times at each point stated in that example have the same meaning as scheduled times.

D-E.

Time Orders.

- (1.) *No 1 run 50 mins late A to G.*

This makes the schedule time of the train named, between the stations mentioned, as much later as stated in the order, and any other train receiving the order is required to run with respect to this later time, as before required to run with respect to the regular schedule time. The time in the order should be such as can be easily added to the schedule time.

-
- (2.) *No 1 run 50 mins late A to G and 20 mins late G to K, etc.*

This makes the schedule time of the train named, between the stations mentioned, as much later as stated in the order, and any other train receiving the order is required to run with respect to this later time, as before required to run with respect to the regular schedule time. The time in the order should be such as can be easily added to the schedule time.

- (3.) Nos 2 and 4 wait at
N until 9 59 a m
P until 10 30 a m
R until 10 55 a m, etc.

The train, or trains, named must not pass the designated points before the times given. Other trains receiving the order are required to run with respect to the time specified at the designated points or any intermediate station where schedule time is earlier than the time specified in the order as before required to run with respect to the schedule time of the train, or trains, named.

-
- (4.) *Extra 77 east run 50 mins late on order No 1.*
 (5.) *Extra 77 east run 30 mins late A to C and 20 mins late C to E on order No 1.*

These may be used in connection with an extra train created by example (3) of Form G and the times at each point stated in that example have the same meaning as scheduled times.

F.

For Sections.

- (1.) *Eng 20 display signals and run as First 1 A to Z.*
 To be used when the number of the engine for which signals are displayed is unknown, and is to be followed by (2), both being single-order examples.
-
- (2.) *Eng 25 run as Second 1 A to Z.*
 (3.) *No 1 display signals A to G for Eng 25.*
Second 1 display signals B to E for Eng 99.
 (4.) *Engs 20 25 and 99 run as First Second and Third 1 A to Z.*

To add an intermediate section, (5) will be used.

- (5.) *Eng 85 display signals and run as Second 1 N to Z.* Following sections change numbers accordingly.
 The engine named will display signals and run as directed, and following sections will take the next higher number.

To drop an intermediate section, (6) will be used.

- (6.) *Eng 85* is withdrawn as *Second 1* at *R*. Following sections change numbers accordingly.

The engine will drop out at *R*, and following sections will take the next lower number.

To substitute one engine for another on a section, (7) will be used.

- (7.) *Eng 18* instead of *Eng 85* display signals and run as *Second 1 R* to *Z*.

The second-named engine will drop out at *R*, and be replaced by the first-named engine. Following sections need not be addressed.

If the second-named engine is the last section, the words "display signals and" will be omitted.

To discontinue the display of signals, (8) will be used.

- (8.) *Second 1* take down signals at *D*.

The train named will take down signals as directed, and a following section must not proceed beyond the designated point.

To pass one section by another, (9) will be used.

- (9.) *Engs 99* and *25* reverse positions as *Second* and *Third 1 H* to *Z*.

Conductors and enginemen of the trains addressed will exchange orders and signals. Following sections, if any, need not be addressed.

Each section affected by these orders must have copies, and must arrange signals accordingly.

To annul a section for which signals have been displayed over a division, or any part thereof, when no train is to follow the signals, Form *K* must be used.

When sections are run to an intermediate point of a schedule, the train orders must specify which section or sections shall assume the schedule beyond such point.

G.

Extra Trains.

- (1.) *Eng 99* run extra *A* to *F*.

- (2.) *Eng 99* run extra *A* to *F* and return to *C*.
The extra must go to *F* before returning to *C*.
-

- (3.) *Eng 77* run extra leaving *A* on *Thursday Feb 17th* as follows with right over all trains:

Leave *A* 11 30 *p m*
 " *C* 12 25 *a m*
 " *E* 1 47 *a m*
 Arrive *F* 2 22 *a m*

This order may be varied by specifying the kind of extra and the particular trains over which the extra shall or shall not have right. Trains over which the extra is given right must clear the time of the extra five minutes, and if it be a "passenger extra," in which case the order must so specify, must, except in automatic block signal territory, be clear of the main track at the time the extra, in the same direction, is due to leave the last station in the rear where time is shown.

S-II.

Work Extra.

- (1.) *Eng 292* works extra 6 45 *a m* until 5 45 *p m* between *D* and *E*.

The work extra must, whether standing or moving, protect itself against extras within the working limits in both directions as prescribed by the rules. The time of regular trains must be cleared.

This may be modified by adding:

- (2.) *Not protecting against eastward extra trains.*

The work extra will protect only against westward extra trains. The time of regular trains must be cleared.

- (3.) *Not protecting against extra trains.*

Protection against extra trains is not required. The time of regular trains must be cleared.

When a work extra has been instructed by order to not protect against extra trains, and, afterwards, it is desired to have it clear the track for, or protect itself after a certain hour against, a designated extra, an order may be given in the following form:

- (4.) *Work Extra 292 clears, or protects against, Extra 76 east between D and E after 2 10 p m.*

Extra 76 east must not enter the working limits before 2 10 p. m., and will then run expecting to find the work extra clear of main track, or protecting itself, as the order may require.

To enable a work extra to work upon the time of a regular train, the following form will be used:

- (5.) *Work Extra 292 protects against No 55, or..... class trains, between D and E.*

The work extra may work upon the time of the train or trains mentioned in the order, and must protect itself against such train or trains. The regular train or trains receiving the order will run expecting to find the work extra protecting itself.

When a work extra is to be given exclusive right over all trains the following form will be used:

- (6.) *Work Extra 292 has right over all trains between D and E 7 15 p m until 1 15 a m.*

This gives the work extra the exclusive right between the points designated between the times named.

The working limits should be as short as practicable; to be changed as the progress of the work may require.

Work extras must give way to all trains as promptly as practicable.

Whenever extra trains are run over working limits, they must be given a copy of the order sent to the work extra. Should the working order instruct a work extra to not protect against extra

trains in one or both directions, extra trains must protect against the work extra; if the order indicates that the work extra is protecting itself against other trains, they will run expecting to find the work extra protecting itself.

D-II.

Work Extra.

- (1.) *Eng 292 works extra on eastward track, or both tracks, 6 45 a m until 5 45 p m between D and E.*

The work extra must, whether standing or moving, protect itself within the working limits against extras moving with the current of traffic on the track or tracks named. The time of regular trains must be cleared.

This form may be modified by adding:

- (2.) *Not protecting against extra trains.*

Protection against extra trains is not required. The time of regular trains must be cleared.

To enable a work extra to work upon the time of a regular train, the following form may be used:

- (3.) *Work Extra 292 protects against No 55, or _____ class trains, between D and E.*

The work extra may work upon the time of the train or trains mentioned in the order and must protect against such train or trains.

The regular train or trains receiving the order will run expecting to find the work extra protecting itself.

When it is desired to move a train against the current of traffic over the working limits, provision must be made for the protection of such movement.

When a work extra is to be given exclusive right over all trains, the following form will be used:

- (4.) *Work Extra 292 has right over all trains on eastward and westward tracks between G and H 7 01 p m until 1 01 a m.*

This gives the work extra the exclusive right to the track, or tracks, mentioned between the points designated between the times named.

The working limits should be as short as practicable; to be changed as the progress of the work may require.

Work extras must give way to all trains as promptly as practicable.

Whenever extra trains are run over working limits, they must be given a copy of the order sent to the work extra. Should the working order instruct a work extra to not protect against extra trains, extra trains must protect against the work extra; if the order indicates that the work extra is protecting itself against other trains, they will run expecting to find the work extra protecting itself.

J. Holding Order.

Hold No 2.

Hold all, or eastward, trains.

When a train has been so held it must not proceed until the order to hold is annulled, or an order given to the operator in the form:

.....may go.

These orders will be addressed to the operator and acknowledged in the usual manner, and will be delivered to conductors and enginemen of all trains affected.

Form J will be used only when necessary to hold trains until orders can be given, or in case of emergency.

K.

Annulling a Schedule or a Section.

No 1 due to leave A Feb 29th is annulled A to Z.

Second 5 due to leave E Feb 29th is annulled E to G.

The schedule or section annulled becomes void between the points named and cannot be restored.

Form K will not be combined with other forms of train orders.

L.

Annulling an Order.

Order No 10 is annulled.

If an order which is to be annulled has not been delivered to a train, the annulling order will be addressed to the operator, who will destroy all copies of the order annulled but his own, and write on that:

Annulled by Order No.....

An order which has been annulled must not be reissued under its original number.

S-M.

Annulling Part of an Order.

- (1.) That part of Order No 10 reading *No 2 meet No 1 at S* is annulled.
- (2.) That part of Order No 12 reading *No 3 pass No 1 at S* is annulled.

Form M will be used only when that part of the order not annulled is clear in its wording.

D-M.

Annulling Part of an Order.

- (1.) That part of Order No 10 reading *Extra 263 west pass No 1 at S* is annulled.
- (2.) That part of Order No 12 reading *No 3 pass No 1 at S* is annulled.

Form D-M will be used only when that part of the order not annulled is clear in its wording.

S-P.

Superseding an Order or a Part of an Order.

This order will be given by adding to prescribed forms the words "instead of....."

- (1.) *No 2 meet No 1 at C* instead of *B*.
- (2.) *No 3 pass No 1 at D* instead of *C*.
- (3.) *No 1 has right over No 2 G to R* instead of *X*.
- (4.) *No 1 display signals for Eng 25 A to Z* instead of *G*.

An order which has been superseded must not be reissued under its original number.

When a train is directed by train order to take siding for another train, such instructions apply only at the point named in that order, and do not apply to the superseding order unless so specified.

D-P.

Superseding an Order or a Part of an Order.

This order will be given by adding to prescribed forms, the words "instead of....."

- (1.) *No 1* pass *No 3* at *C* instead of *B*.
- (2.) *No 1* display signals for *Eng 25 A* to *Z* instead of *G*.

An order which has been superseded must not be reissued under its original number.

D-R.

Providing for a Movement Against the Current of Traffic.

- (1.) *No 1* has right over opposing trains on *eastward* track *C* to *F*.

The designated train must use the track specified between the points named and has right over opposing trains on that track between those points. Opposing trains must not leave the point last named until the designated train arrives.

An inferior train between the points named moving with the current of traffic in the same direction as the designated train must receive a copy of the order, and may then proceed on its schedule, or right.

This order may be modified as follows:

- (2.) After *No 4* arrives at *C* *No 1* has right over opposing trains on *eastward* track *C* to *F*.

The train to be moved against the current of traffic must not leave the first-named point until the arrival of the first-named train.

A train must not be moved against the current of traffic until the track on which it is to run has been cleared of opposing trains.

D-S.

Providing for the Use of a Section of Double Track as Single Track.

Eastward, or westward, track will be used as single track between *F* and *G*.

If it is desired to limit the time for such use, add *from 1 01 p m to 3 01 p m.*

All trains must use the track specified between the stations named and will be governed by rules for single track.

Trains running against the current of traffic on the track named must be clear of the track at the expiration of the time named, or protected as prescribed by Rule 99.

S-T.

Giving Authority for a Train to Proceed from an Automatic Block Stop Signal.

- (1.) Pass Stop-signal *1025* at stop and proceed at restricted speed to the next block signal.

This order permits a train to pass an automatic block Stop-signal in stop position, and proceed at restricted speed to the next block signal.

U.

Check of Trains by Train Order.

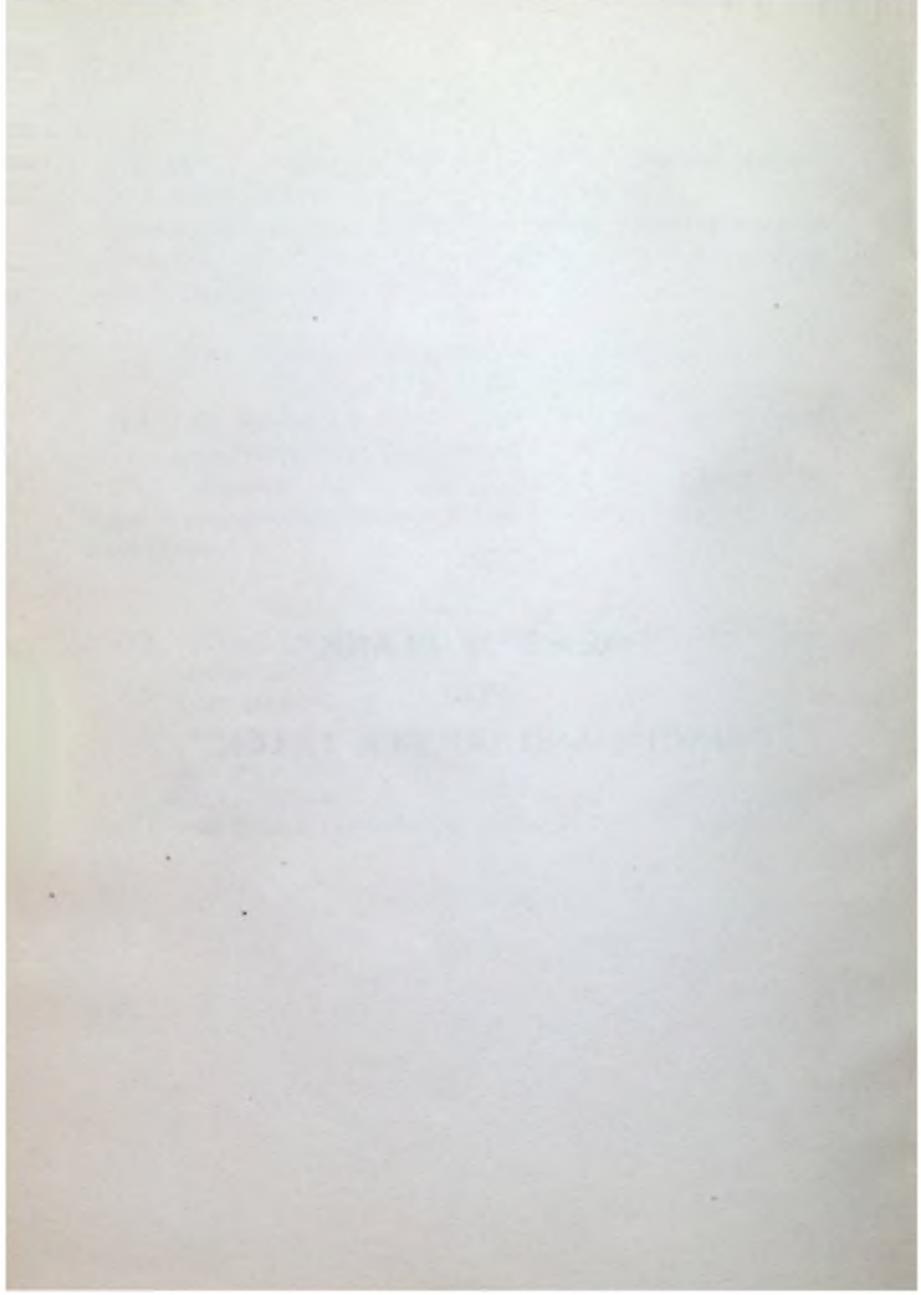
- (1.) All Superior trains due at *A* at or before *7 15 a m* have arrived or left.

If any train affecting the Superiority of the train addressed has not arrived or departed, the following should be added:

Except *No 603*.

This form to be used when it is desired that the train dispatcher give a train the information required by Rules *S-83* and *D-83*.

**FORMS OF BLANKS
FOR
SINGLE AND DOUBLE TRACK.**





N. P. 1357 A

7-25

CLEARANCE CARD A

Livingston Apr 1 19 26C. & E. No 603I have (3) (No) Orders for your train, Nos. 6 1215

_____ have been delivered
and there are no further orders for your train.

★Block _____

O. K. GHJ Supt. Time 10 30 A M

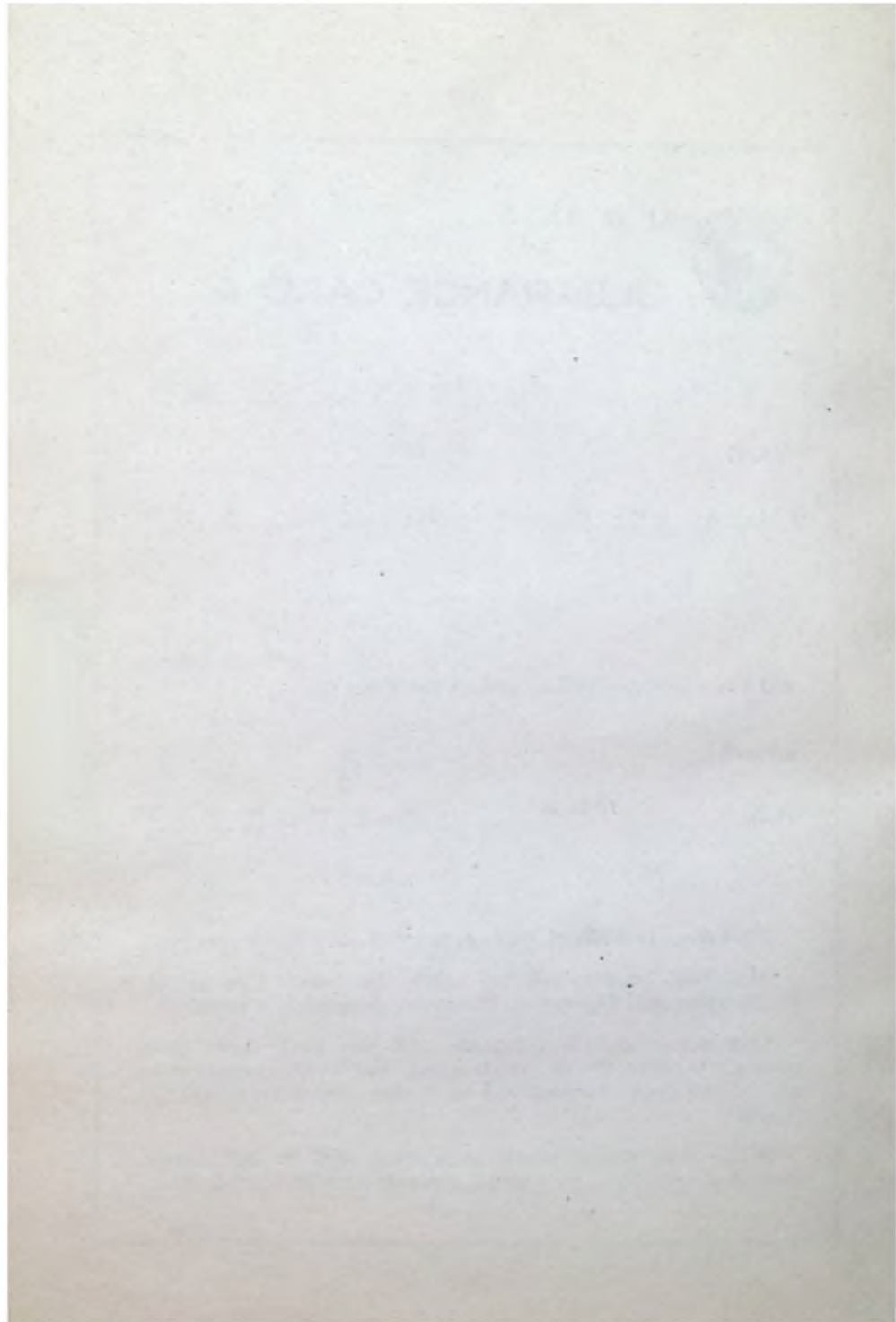
Slown Operator.

This does not affect any orders you may have received.

Manifold copies will be made for each Conductor, Engineman and Operator, the latter retaining a copy.

Conductor and Engineman will see that their train number is correctly designated and the order numbers in the above form correspond with the order numbers delivered.

*The line giving block indication will be left blank, except as provided by special instructions in time-table.



STANDARD TRAIN ORDER BLANK FOR 19 ORDER.

19

N. P. ¹³²⁴/₇₋₂₄

19

NORTHERN PACIFIC RAILWAY CO.

Train Order No. _____ 19 _____

TO _____	AT _____
TO _____	
TO _____	
TO _____	

X _____ Opr.; _____ M

Superintendent.

Made _____ Time _____ M. _____ Opr. _____

Conductor and Engineman must each have a copy of this order.

10

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

5300 S. DICKINSON DRIVE

CHICAGO, ILLINOIS 60637

TEL: 773-936-3700

FAX: 773-936-3700

WWW.PHYSICS.UCHICAGO.EDU

PHYSICS 101

LECTURE 1

MECHANICS

1.1 Kinematics

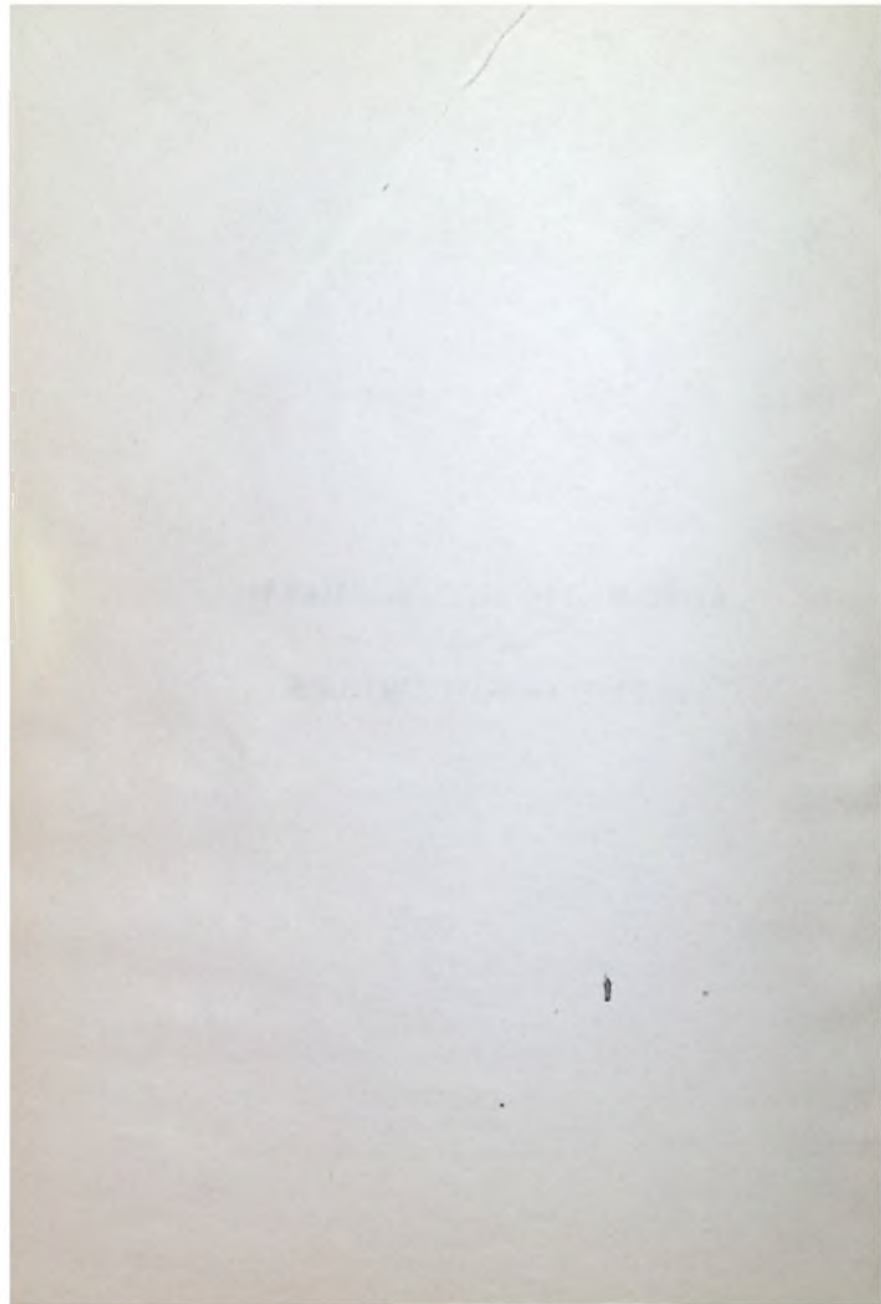
1.2 Dynamics

1.3 Energy

1.4 Momentum

1.5 Angular Momentum

**AUTOMATIC BLOCK SIGNAL
AND
INTERLOCKING RULES.**



DEFINITIONS.

Block System.—A series of consecutive blocks.

Automatic Block System.—A series of consecutive blocks governed by block signals operated by electric, pneumatic or other agency actuated by a train, or by certain conditions affecting the use of a block.

Interlocking.—An arrangement of switch, lock and signal appliances so interconnected that their movements must succeed each other in a pre-determined order.

Interlocking Station.—A place from which an interlocking plant is operated.

Block.—A length of track of defined limits, the use of which by trains is governed by block signals.

Interlocking Plant.—An assemblage of switch, lock and signal appliances, interlocked.

Fixed Signal.—A signal of fixed location indicating a condition affecting the movement of a train.

Block Signal.—A fixed signal at the entrance of a block to govern trains entering and using that block.

Interlocking Signals.—The fixed signals of an interlocking plant.

Home Signal.—A fixed signal at the entrance of a route or block to govern trains in entering and using said route or block.

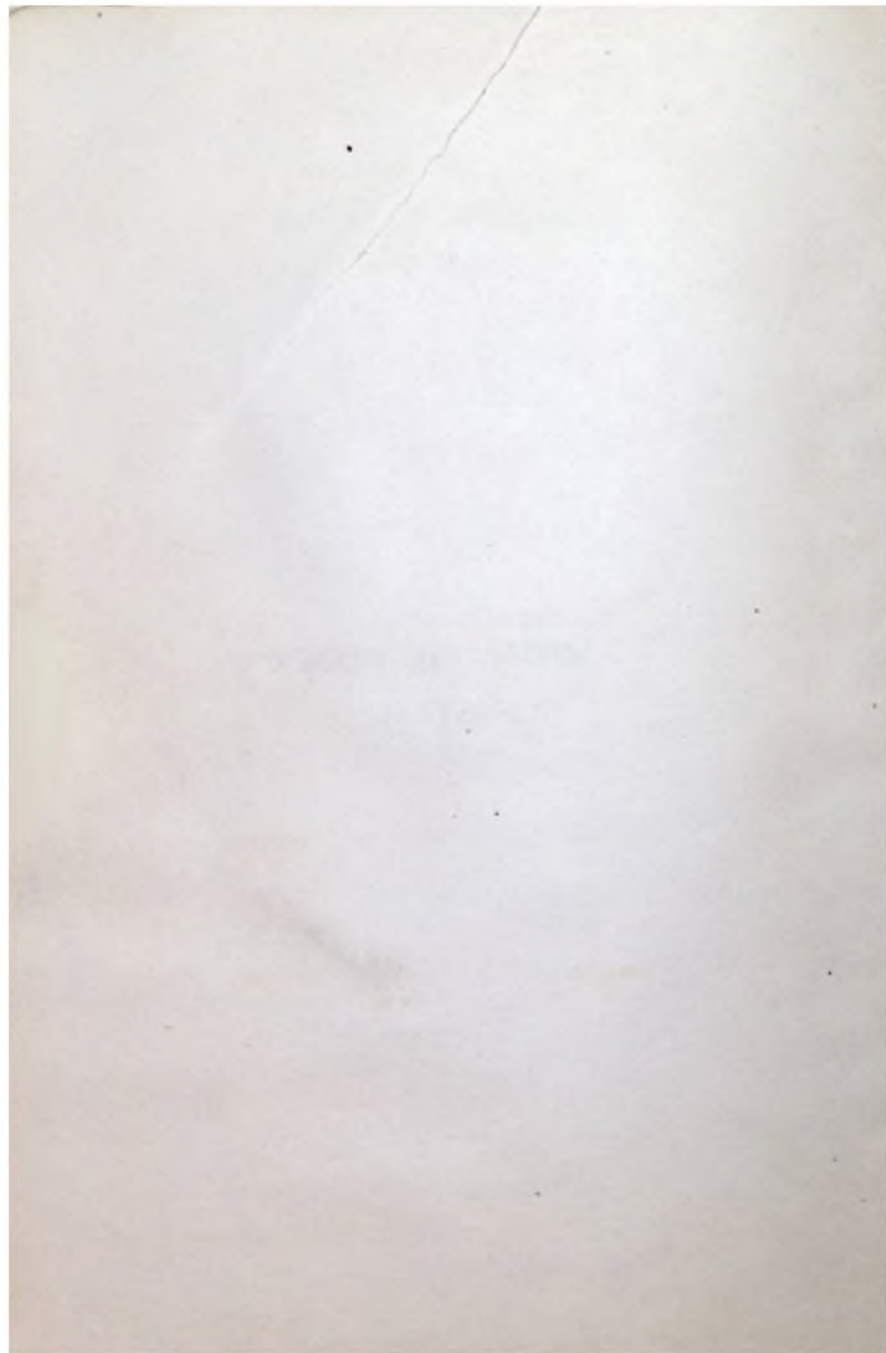
Distant Signal.—A fixed signal used in connection with one or more signals to govern the approach thereto.

Dwarf Signal.—A low home signal.

Restricted Speed.—Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced.

The first part of the report is devoted to a general description of the country, its position, extent, and population. It then proceeds to a detailed account of the various districts, their resources, and the progress of the different branches of industry and commerce. The author also discusses the state of agriculture, the condition of the roads, and the state of the public buildings. The report concludes with a summary of the principal facts and a list of the names of the various districts and places mentioned in the text.

**AUTOMATIC BLOCK
SYSTEM.**



RULES.

501. THREE POSITION BLOCK SIGNALS.

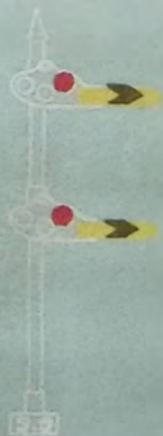
The following signals will appear where conditions require their use.

501-A.



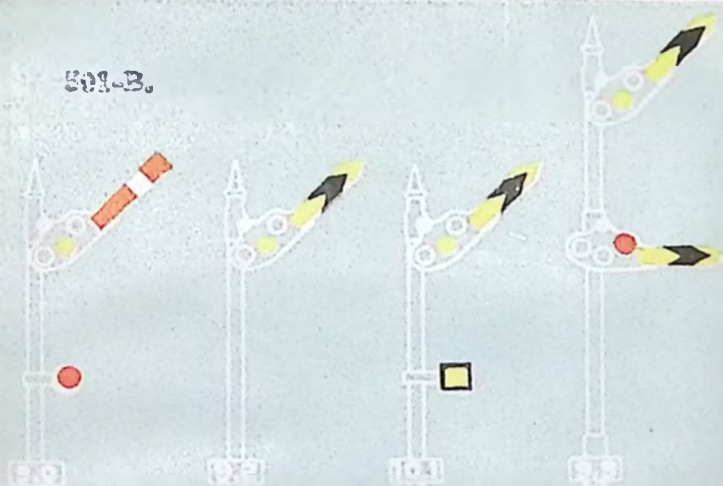
INDICATION—Stop, Block is not clear.
Name—STOP SIGNAL.

501-AA.



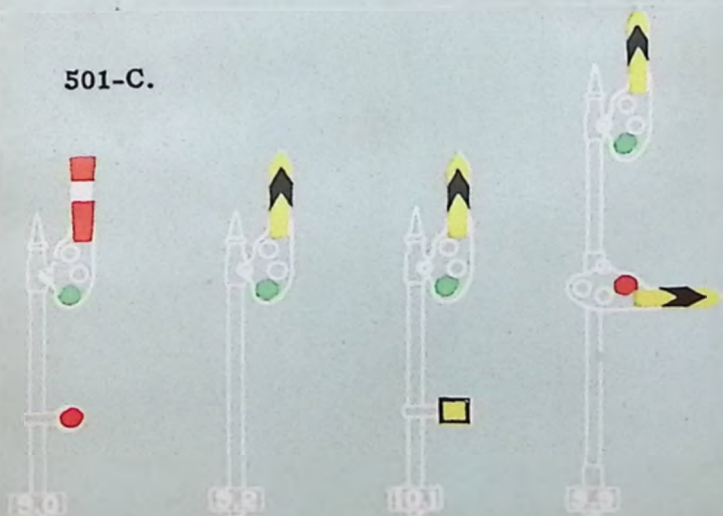
INDICATION—Stop, then proceed at restricted speed.
Name—STOP AND PROCEED SIGNAL.

501-B.



INDICATION—Approach, next signal prepared to stop. Block is clear; second block in advance is not clear.
Name—APPROACH SIGNAL.

501-C.



INDICATION—Proceed, Block is clear.
Name—CLEAR SIGNAL.

501-G.



INDICATION—Proceed at restricted speed. Block is occupied or switch is set to diverge.

Name—RESTRICTING SIGNAL.

501-H.



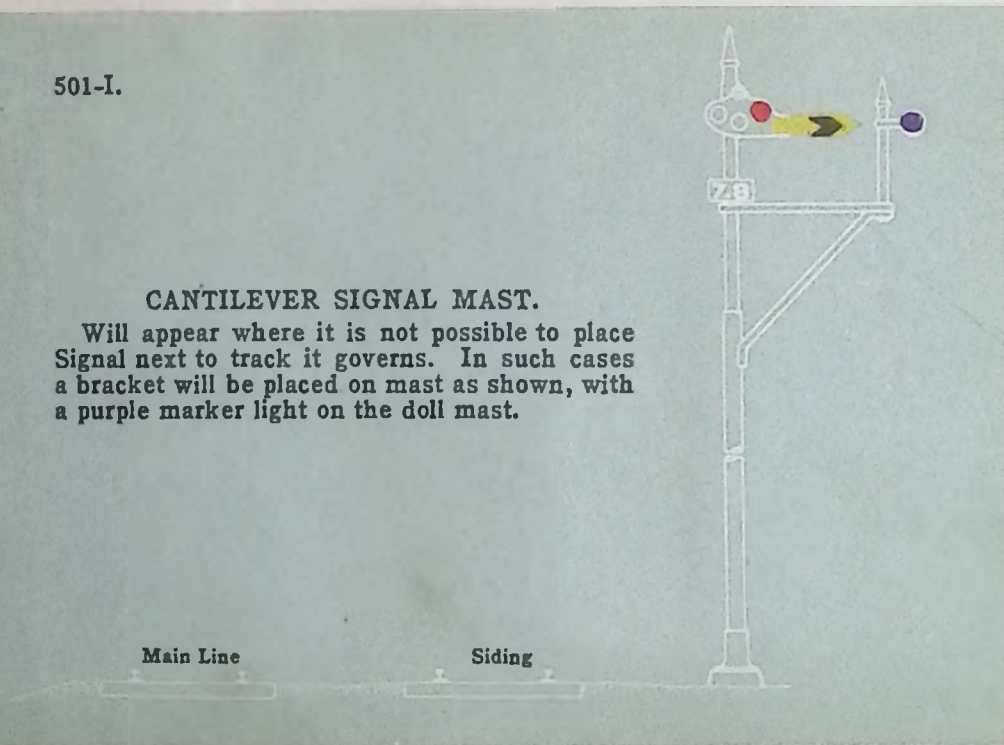
INDICATION—Proceed at restricted speed. Block is occupied.

Name—RESTRICTING SIGNAL.

501-I.

CANTILEVER SIGNAL MAST.

Will appear where it is not possible to place Signal next to track it governs. In such cases a bracket will be placed on mast as shown, with a purple marker light on the doll mast.



505. Block signals govern the use of the blocks, but, unless otherwise provided, do not supersede the superiority of trains; nor dispense with the use or the observance of other signals whenever and wherever they may be required.

506. Lights must be used upon all Block-signals from sunset to sunrise and whenever the signal indications cannot be clearly seen without them.

ENGINEMEN AND TRAINMEN.

508. Block signals for a track apply only to trains moving with the current of traffic on that track.

509. When a train is stopped by a Stop-signal it must stay until authorized to proceed, or in case of failure of means of communication it may proceed when preceded by a flagman to the next signal displaying a proceed indication.

When a train is stopped by a Stop and Proceed-signal it may proceed at once at restricted speed, expecting to find a train in the block, broken rail, obstruction, or switch not properly set.

509-a. When a train approaches a Restricting Block-signal (See 501-II), engineman will acknowledge the signal by two short blasts of the whistle as provided in Rule 14 (g), and may then proceed at restricted speed. When passing this signal a speed of fifteen miles per hour must not be exceeded.

509-b. When a train is stopped by a Stop-signal located at the lap of a lap siding, if a clear or caution signal is not immediately displayed, it may proceed under protection of flag to the next Block-signal.

510. When a train is stopped by a Block-signal which is evidently out of order, and not so indicated, the fact must be reported to the Superintendent.

511. Trains or engines using a cross-over must have at least one switch open while occupying any part of the cross-over.

512. Where switch indicators are used, the indications displayed do not relieve enginemen and trainmen from protecting their train as required by the rules.

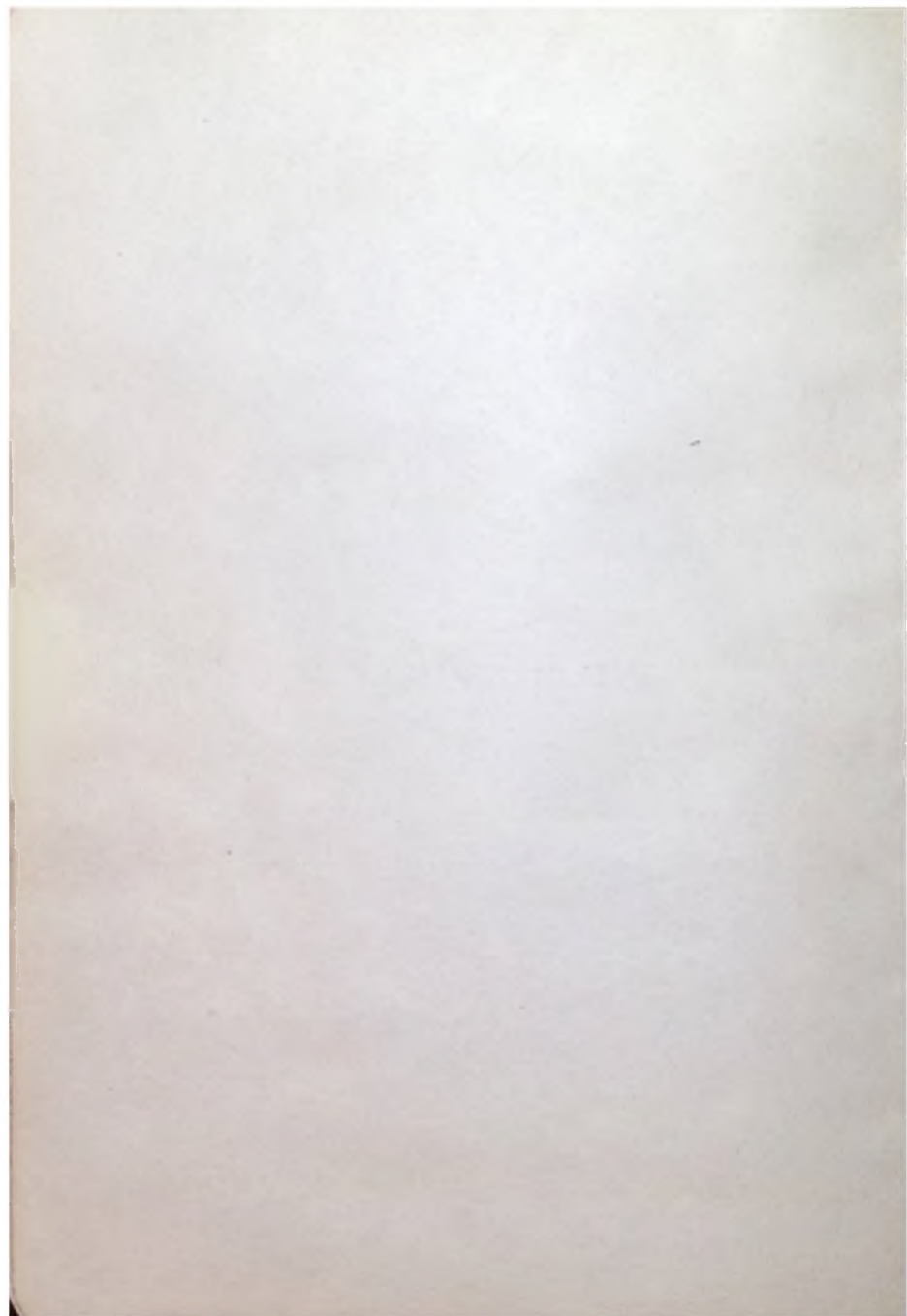
Indicators at main track cross-overs indicate the condition of the opposite track and not the track on which they are located.

513. Lights will not be maintained on trailing point switches on double track; nor on facing point switches on double, or on any switch on single track, located not more than 300 feet in advance of the signal protecting the block in which the switch is located.

514. Where the automatic Block-signal governing the track in use can be plainly seen from the rear of a standing train to be at stop, such signal being not less than one-half mile from such train, it will not be necessary to protect the train by a flagman. Under all other circumstances Rule 99 must be observed.

514-a. When trains are moving against the current of traffic on double track, Rule 514 does not apply, and the rear of train must be protected as prescribed by Rule 99.

INTERLOCKING.

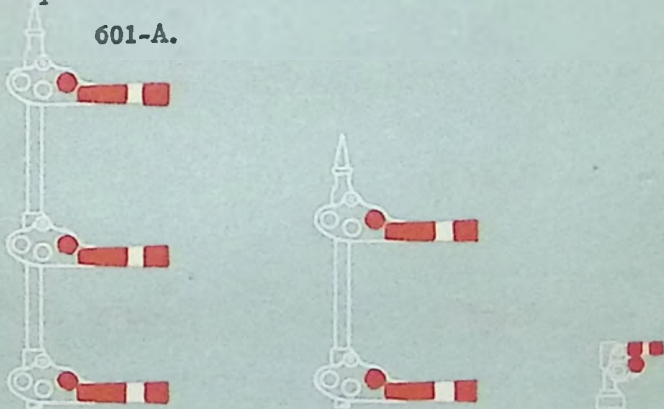


RULES.

601. THREE POSITION SIGNALS.

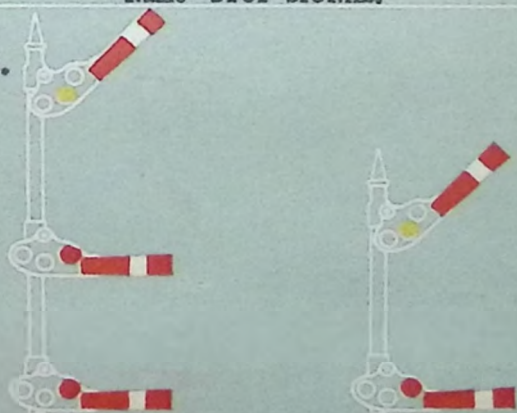
The following signals will appear where conditions require their use.

601-A.



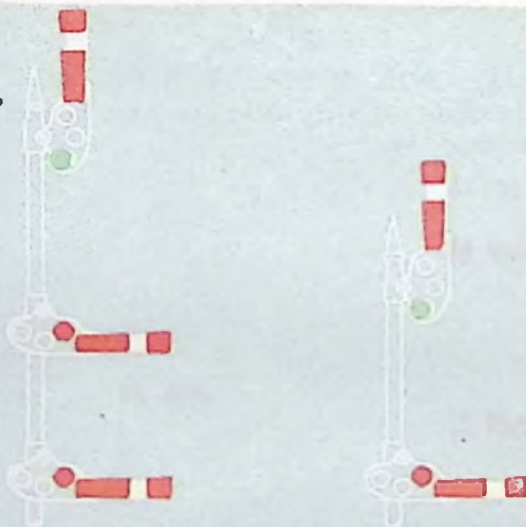
INDICATION—Stop. Block is not clear or Route is not set.
Name—STOP SIGNAL.

601-B.



INDICATION—Approach next Signal prepared to stop. Block is clear; second block in advance is not clear, or Route is set; next signal is not clear.
Name—APPROACH SIGNAL.

601-C.



INDICATION—Proceed, two or more blocks are clear, or Route is set.

Name—CLEAR SIGNAL.

601-D.



INDICATION—Proceed at restricted speed prepared to stop at next signal. Block is clear; second block in advance is not clear or restricted speed route is set. Next signal is not clear.

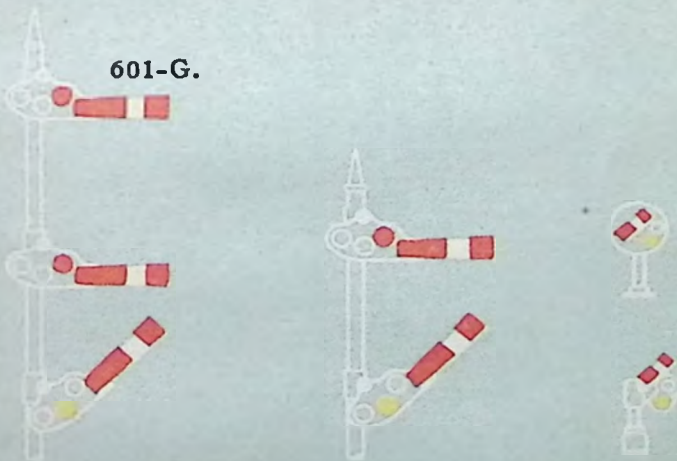
Name—RESTRICTING SIGNAL.

601-F.



INDICATION—Proceed at restricted speed. Two or more blocks are clear or restricted speed route is set.
Name—CLEAR, RESTRICTING SIGNAL.

601-G.

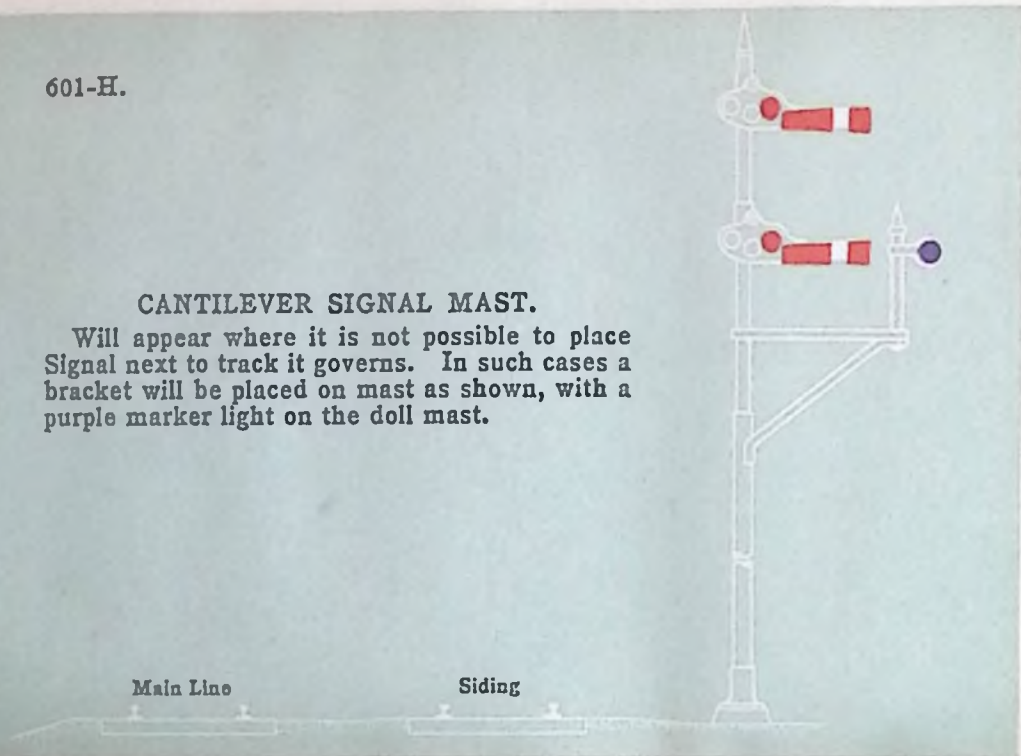


INDICATION—Proceed at slow speed; prepared to stop.
 Slow speed route is set, block may or may not be occupied.
Name—SLOW SPEED SIGNAL.

601-H.

CANTILEVER SIGNAL MAST.

Will appear where it is not possible to place Signal next to track governs. In such cases a bracket will be placed on mast as shown, with a purple marker light on the doll mast.



RULES.

602. TWO POSITION HOME SIGNAL.

The following signals will appear where conditions require their use.

602-C.



INDICATION—Proceed. Block is clear, or route is set.

Name—CLEAR SIGNAL.

602-G.



INDICATION—Proceed at slow speed, prepared to stop. Slow speed route is set, block may or may not be occupied.

Name—SLOW SPEED SIGNAL.

605. Interlocking signals govern the use of the routes of an interlocking plant, and as to movements within Home Signal limits, their indications supersede the superiority of trains, but do not dispense with the use or the observance of other signals whenever and wherever they may be required.

SIGNALMEN.

611. Signal levers must be kept in the position displaying the most restrictive signal indication, except when signals are to be cleared for an immediate train or engine movement.

612. Levers and operating appliances must be operated carefully with a uniform movement, and only by those charged with that duty as prescribed by the rules. If any irregularity indicating disarranged connections is detected in their working, the signals must be restored so as to display their most restrictive indication, and their operation discontinued until repaired.

613. When the route is set the signals must be operated sufficiently in advance of approaching trains to avoid delay.

614. Signals must be restored so as to display their most restrictive indication as soon as the train or engine for which they were cleared has passed the Home Signal limits of the interlocking plant.

615. If necessary to change any route for which the signals have been cleared for an approaching train or engine, switches, movable frogs or derails must not be changed or signals cleared for any conflicting route until the train or engine for which the signals were first cleared has stopped.

616. The lever operating a switch, derail, movable frog, detector bar or lock must not be moved when any portion of a train or engine is standing on or closely approaching the switch, derail or movable frog.

617. Operating levers must be blocked or marked when track, switches or signals are undergoing repairs or when tracks are obstructed.

618. During cold weather the levers must be moved as often as may be necessary to keep connections from freezing.

619. During storms or while snow or sand is drifting, special care must be used in operating switches. If the force whose duty it is to keep the switches clear is not on hand promptly when required, the fact must be reported to the Superintendent.

620. If a signal fails to work properly its operation must be discontinued and, until repaired, the signal secured so as to display its most restrictive indication.

621. Signalmen must observe, as far as practicable, whether the indications of the signals correspond with the positions of the levers.

622. Signalmen must not make nor permit any unauthorized repairs, alterations or additions to the plant.

Any defects in the interlocking plant must be promptly reported to the Superintendent.

623. If there is a derailment or if a switch, movable frog or derail is run through, or if any damage occurs to the track or interlocking plant, the signals must be restored so as to display their most restrictive indication, and no train or switching movement permitted until all parts of the interlocking plant and track liable to consequent injury have been examined and are known to be in a safe condition.

624. When necessary to disconnect a switch, movable frog, derail, facing point lock, detector bar or electric locking circuits, all switches, movable frogs and derails affected must be securely spiked or fastened in the required position.

625. When switches, movable frogs, derails or signals are undergoing repairs, signals must not be displayed for any movement which may be affected by such repairs until it has been ascertained from the repairman that the switches, movable frogs and derails are properly set for such movement.

626. Signalmen must observe all passing trains and note whether they are complete and in order; should there be any indication of conditions endangering the train, or any other train,

the signalman must take such measures for the protection of trains as may be practicable.

627. If a signalman has information that an approaching train has parted he must, if possible, stop trains or engines on conflicting routes, clear the route for the parted train, and give the Train-parted signal to the engineman.

628. Signalmen must have the proper appliances for hand signaling ready for immediate use. Hand signals must not be used when the proper indication can be displayed by the interlocking signals. When hand signals are necessary they must be given from such a place and in such a way that there can be no misunderstanding on the part of enginemen or trainmen as to the signals, or as to the train or engine for which they are given.

628-a. In giving hand signals for a train to move through interlocking limits against fixed signals, the signalman must be on the ground and use a yellow flag by day and a yellow light by night.

629. If necessary to discontinue the use of any interlocking signal, hand signals must be used and the Superintendent notified.

630. Signalmen will be held responsible for the care of the interlocking station, lamps and supplies and, unless otherwise provided, of the interlocking plant.

631. Lights in interlocking stations must be so placed that they cannot be seen from approaching trains.

631-a. Lights must be used upon all interlocking signals from sunset to sunrise and whenever the signal indications cannot be clearly seen without them.

632. If a train or engine overruns a Stop-signal, the fact must be reported to the Superintendent.

633. Signalmen must not permit unauthorized persons to enter the interlocking station.

634. During a stated period of the day, an interlocking station may be closed upon authority of the Superintendent. When so closed switches and switch levers must be secured for routes that do not conflict; signals for such routes must display proceed indication.

The interlocking station must be securely locked.

ENGINEMEN AND TRAINMEN.

661. If a signal permitting a train to proceed, after being accepted, is changed to a Stop-signal before it is reached, the stop must be made at once. Such occurrence must be reported to the Superintendent.

662. Trains or engines must not pass a signal indicating stop, except as provided in Rule 663.

663. Trains or engines must not pass an interlocking Stop-signal without receiving hand signals. Enginemen and trainmen must not proceed on hand signals until they are fully informed of the situation; the movement must then be made at restricted speed.

664. The engineman of a train which has parted must sound the whistle signal for Train-parted on approaching an interlocking plant.

665. An engineman receiving a Train-parted signal from a signalman must answer by the whistle signal for Train-parted.

666. When a parted train has been re-coupled the signalman must be notified.

667. Sand must not be used over movable parts of an interlocking plant.

668. Conductors must report to the Superintendent any unusual detention at interlocking plants.

669. Trains or engines stopped by the signalman in making a movement through an interlocking plant, must not move in either direction until they have received the proper signal from him.

670. A reverse movement within the limits of an interlocking plant, or a forward movement after making a reverse movement, must not be made without the proper interlocking signal or permission from the signalman.

671. During a stated period of the day, when an interlocking station is closed, should a signal for an open route indicate stop, movements through the interlocking plant must be made preceded by a flagman, and before proceeding, enginemen and trainmen must know the route is properly set for their train and there are no conflicting movements; reporting the fact to the Superintendent from the first available point of communication.

REPAIRMEN.

681. Repairmen are responsible for the inspection, adjustment and proper maintenance of all the interlocking plants assigned to their care.

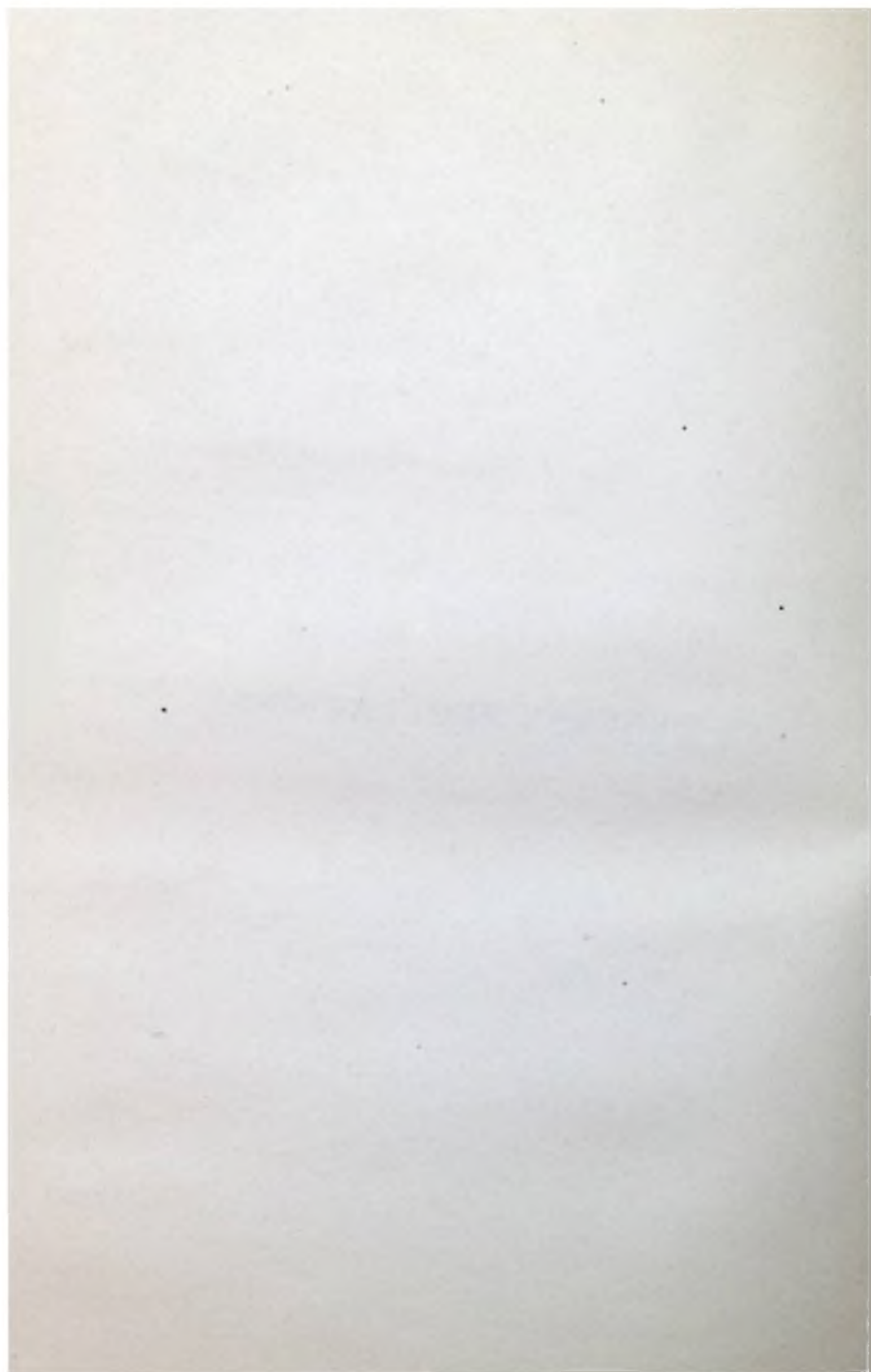
682. When the condition of switches or track does not admit of the proper operation or maintenance of the interlocking plant, the fact must be reported to the Superintendent.

683. When any part of an interlocking plant is to be repaired, a thorough understanding must first be had with the signalman in order to secure the safe movement of trains and engines during repairs. The signalman must be notified when the repairs are completed.

684. If necessary to disconnect a switch, derail, detector bar, or its equivalent, or a lock, all switches or derails affected must be safely secured before any train or engine is permitted to pass over them.

685. Alterations or additions to an interlocking plant must not be made unless authorized by the Signal Engineer.

GENERAL REGULATIONS.



AIR BRAKE RULES.

1000. Except as otherwise provided, instructions contained in the current Air Brake Instruction Book covering operation and maintenance of air brake and air signal apparatus will govern, and employes having to do with air brake operation should provide themselves with a copy.

1001. All cars in passenger trains must be equipped with air brakes and air signals, which must be coupled and connected with the engine.

The air hose must be coupled and air cut in while switching all passenger cars, whether occupied or not.

1002. Conductors and enginemen will give air brakes personal attention and will exact similar care from brakemen. They will not start a train from any point after switching has been done cars set out or picked up, helper coupled to rear of train, engines changed, or where for any reason train pipe has been disconnected or an angle cock closed, until after the proper test of air brakes has been made by trainmen and engineman who is to control brakes.

1003. A terminal test of air brakes on all trains and of air signal on passenger trains must be made by car inspectors or trainmen before leaving terminals.

A terminal test of air brakes must be made on all freight trains immediately before commencing the descent of mountain grades. Conductor must inform engineman of the tons per good brake and before proceeding they will confer and agree as to precautions necessary to control train.

Passenger trains authorized to pass summit of mountain grades without making terminal brake test must pass summit at moderate speed if no stop is made. In either case the engineman must make a brake application at low speed, this application to follow departure if a stop is made. Engineman must not proceed until he is satisfied by brake action that brakes are able to control train.

1004. A passenger train must not leave a terminal or division

point with brakes upon any car cut out or in defective condition without permission of the Superintendent.

1005. When back-up hose is used, its connection must be tested by making reduction of brake-pipe pressure before train is moved.

A passenger train should not be backed any considerable distance without suitable back-up hose, or its equivalent, and a trainman on the rear platform.

1011. When taking charge of an engine, the engineman must see that the air brake and air signal apparatus on the engine and tender is in good order, and at the end of the run must inspect the apparatus and report any defects.

1012. When more than one engine is used on or in a train, the air brakes will be controlled from the leading engine. If necessary to change control of brakes, the train must first be stopped and a verbal understanding had before change of control and proceeding. When possible the engine that is then to control the brakes should be switched ahead.

Under no circumstances shall the brake valve on any other engine in the train be cut in, either standing or running, except to apply brakes in a case of emergency.

1013. Conductors are responsible for retaining valves being cut in and cut out at proper times. Down grades of one and eight-tenths per cent or steeper use all retaining valves, unless otherwise provided. Down lesser grades, except where there are special rules to govern, enginemen will determine minimum and conductor will use any additional number that he considers necessary.

1014. Should the air brakes become ineffective, the engineman must notify the conductor at once and the use of hand brakes must be arranged for.

1015. Should the air brakes be applied suddenly, from any unknown cause, steam must be shut off at once and the brake-valve handle placed in the lap position.

1051. When making up a train, all hose connections must be coupled and all angle cocks opened except the one on the rear of the last car on which the air brake is to be used.

The release cocks on the auxiliary reservoirs must be closed, the handles of the pressure-retaining valve placed in proper position to permit full port opening in valve for prompt releasing of brake cylinder pressure, the air brakes cut in and the hand brakes released before air brakes are tested.

1052. When starting, trainmen will see that brakes are released and enginemen will run at a speed which will permit of trainmen making a thorough inspection and boarding the caboose safely. Brakemen will be held responsible for wheels slid flat under parts of train in their charge.

1053. An air brake which cannot be made effective must be cut out, properly carded, and engineman notified.

1054. In detaching engines or cars, the angle cocks must first be closed and the hose couplings parted by hand.

1055. When necessary to cut off engine on steep grades, before detaching the engine, the air brakes must be released and the train held with hand brakes.

Where a train must stand on a grade for over ten minutes, the train must be held by hand brakes, unless the engineman can hold it with the independent brakes on engine, and the air brakes on cars must be released and kept recharged.

1056. Should an engineman of a passenger train whistle for brakes, a conductor's valve must be opened quickly, kept open until the train is stopped and then closed. If no air escapes when the valve is opened, hand brakes must be applied.

1057. If air brakes become so defective while on the road as to interfere with proper control of train or to require special arrangement, report same to Superintendent by telegraph and get authority before proceeding.

Each car having a defective air brake must be properly carded.

1058. Freight conductors must know by the caboose gage that the air is cut into the caboose and train is being controlled safely, taking into consideration air pressure, speed and grade. Where these indicate that aid is needed, either from hand brakes or use of conductor's valve, it must be rendered at once without awaiting call from engineman.

Approaching meeting points and other places where extra hazard would result from engineman not having the full use expected of air brakes, and at a distance not less than one mile or over two from such point, it must be determined by inspection of caboose gage whether he has such full use. If not, steps must be taken at once to stop.

Signal to proceed must not be given at any time until the pressure shown on caboose gage is sufficient to release all brakes and insure safe control of train.

1059. The air brake on the car next to an engine must always be cut in. If so defective as to require cutting it out a car with a good order brake must be switched in its place. More than two consecutive brakes must not be cut out in the train.

1060. The rear car in a passenger train must always have an operative air and hand brake.

When necessary to haul a car of any description behind the caboose it must be chained thereto as well as coupled unless the air brake is in good condition and is being operated or the hand brake is in good condition and a trainman stationed on such car. In all cases car in rear must have a connection to train pipe on train so brakes will apply if car breaks off. If necessary a hose with angle cock can be coupled to rear hose of caboose and fastened to rear car.

1101. Engine-house foreman must have engine and tender air brake and air signal apparatus inspected and necessary repairs made before each trip.

SLOW ORDERS AND BULLETINS.

1301. Whenever track or structure is rendered unsafe for passage of trains at usual speed, or is in such condition as to endanger persons or property, it is the first duty of those discovering same to immediately protect all trains, as per Rule 99, following promptly with a telegraph report to Superintendent showing character of defects, location, action taken for protection by signals or otherwise, tools and material and estimate of time required to make repairs.

1302. Whenever any portion of track is to be made unsafe by work for passage of trains at usual speed, except for short intervals, notice must be telegraphed to the Superintendent giving location, nature of work, restrictions necessary, and time they should go into effect. Promptly on completion of work, the person in charge will notify the Superintendent.

1303. Those requesting issuance of cautionary orders will not consider them in effect until receipt of a copy of such order from the train dispatcher.

1304. These instructions in no way modify rules for use of signals, or release those in charge of work from the duty of protecting dangerous places.

1305. Cautionary orders or bulletins are effective until cancelled by an annulling order or bulletin.

1306. Bulletins will be used as advice of conditions affecting the movement or safety of trains, and will be numbered consecutively, beginning with No. 1 on January First each year. They must be issued and cancelled by authority and over the signature of the Superintendent.

Train orders will be used when the conditions are of a temporary or serious nature.

1307. Roadmasters and supervisors must watch cautionary bulletins respecting work under their charge, and see that cancellation is promptly requested on completion of such work.

SAFETY PRECAUTIONS AND CASUALTIES.

1401. To insure personal safety, operators in double track territory having train orders or messages for passing trains, must never stand between the main tracks.

1402. All are cautioned not to walk or stand upon the tracks except when necessary, and, as far as possible, to prevent the public from so doing.

1403. When persons who are evidently intoxicated, idiotic, or insane, are seen in the vicinity of tracks or stations, they should

be guarded from approaching trains, and, as soon as possible, be put in the custody of the police or other proper authorities.

1404. If defective or dangerous condition is discovered in the construction of tracks, structures, equipment, appliances, tools, or other property whereby hazard exists or casualty might result, immediate and full report must be telegraphed to the Superintendent. Employes are required to see for themselves that machinery and tools which they are to use are in proper condition for the service required, before using them.

1405. In case of extraordinary storms or high water, trains must be brought to a stop and a man sent to examine bridges, trestles, culverts or other places liable to damage, before proceeding. Conductors and enginemen will make careful inquiry at all stopping places, and, if necessary, make extra stops to ascertain extent and severity of storms, protecting themselves as provided by rules and taking no risks. When in doubt as to safety, train will be placed upon a siding until it is ascertained it is safe to proceed.

1406. When passengers or employes are injured, the nearest Company surgeon must be called if the injury requires the attention of a doctor. When a Company surgeon cannot be reached, the nearest doctor should be called and the Company surgeon notified. On arrival of the Company surgeon he will take charge of the patient. In all cases of serious injury the patient will be conveyed to the nearest Company hospital and placed in charge of the Chief Surgeon; except when injuries are so serious that patient cannot be safely conveyed to Company hospital, when he may be placed in any nearby hospital.

1407. When casualty occurs to any train on which passengers are carried, trainmen, after first making everything safe, must give their undivided attention to the care and comfort of passengers, especially any who may be injured. Bedding and linen may be taken from the sleepers for this purpose, the conductor keeping a careful account of all supplies so taken and accounting for any not returned.

1408. In cases of injury inflicted by trains or by other Company

operations upon persons who are trespassers on the tracks or other property of the Railway Company, the injured must be carried to the nearest station and proper medical aid obtained, and the nearest doctor, preferably the local surgeon of the Railway Company, called to give first aid. When care of such persons is not taken over by relatives or friends, the authorities in the County where the accident occurred must be immediately notified and requested to take charge. When a corpse is found on the tracks, remove the body so as to give a clear passage for trains, telegraph or telephone the Coroner of County in which body is found, and report facts to the Superintendent.

1409. Any casualty involving death or injury to employes or others, damage to Railway or other property, fire, whether causing damage to the property of the Railway or others, must be reported by telegraph to the Superintendent. This report will be promptly followed by report in detail from the employe in charge and regular reports on prescribed forms from all employes having knowledge of the facts. In all such cases the employe in charge will immediately secure the names, addresses and occupation of all persons, employes or others, who witnessed the casualty and report to the Superintendent.

1410. In case of fatality, personal injury, or damage to property other than that of the Railway, every effort must be made immediately to secure names and addresses of all persons, whether employes or others, who witnessed the casualty and report mailed to the Superintendent at once. In cases of automobiles or other vehicles struck on crossing, the conductor, assisted by his brakemen, must secure the names, addresses and occupation of all passengers on his train. The conductor must also get the names, addresses and occupation of all persons at, or arriving at the crossing immediately after the accident, the license numbers of all cars nearby, whether or not the bystanders or occupants of the nearby cars admit knowing anything about the accident. These reports should be sent by first train mail to the Superintendent.

1411. In cases where persons or vehicles are struck and injured

or damaged by trains or locomotives on crossings in the vicinity of stations, Agent at point where accident occurred will immediately locate on a rough sketch and show by actual measurement the position of all cars standing on tracks at or near the crossing, and send report to the Superintendent, describing the cars, giving the initials and number of each and their location with reference to the crossing where the accident occurred.

1412. When an employe or other person is killed or injured while working upon or around, or being on or around, trains, cars, engines, turntables or any of their appliances, machinery or any of its appliances, the trains, cars, engines, turntables or any of their appliances, machinery or any of its appliances, involved in the accident, must be immediately examined by the employe in charge to ascertain their condition, and report to the Superintendent the initials and numbers of cars, and description of machinery or appliances involved, stating the condition of such trains, cars, engines, turntables or any of their appliances, machinery or any of its appliances, giving the names of the employes making the inspection. When train, engine or car is involved this inspection must be made before it leaves the place where the accident occurred, and afterward at the first district terminal by the regular inspector, Master Mechanic or Shop Foreman. When an accident is caused by breaking of machinery, tools, appliances or rails, the broken parts must be preserved and marked so as to be readily identified and sent to the Superintendent or reported and held subject to his order.

1413. In case of damage to trains or structures wherein the security of railway property or freight is involved, it is the duty of all concerned to see that watchmen are immediately stationed, and that arrangements are promptly made for the protection of such property against thieving or loss from other causes.

LEGAL PROCEEDINGS.

1501. Whenever service of summons or any other legal paper is made on an officer, agent, or employe with reference to the business of the Railway, he must at once telegraph the General Solic-

tor at Saint Paul, or the Division Counsel for the district in which the action is brought, and notify the Superintendent of the fact and that report to Counsel has been made. Telegraphic report should state names of parties to action, plaintiff, defendant, and when possible a brief statement of the case.

The paper or papers served should be sent by first train mail as follows, viz.: In suits in Wisconsin and Minnesota, General Solicitor, St. Paul; North Dakota, Division Counsel, Fargo; Montana, Division Counsel, Helena; Idaho and Washington east of the the Columbia River, Division Counsel, Spokane; Washington west of the Columbia River and in Oregon, Western Counsel, Seattle.

1502. If by process of law freight or baggage is seized, check must be surrendered, all charges collectible must be demanded, and a receipt for the property obtained before delivery is made to an officer of the law.

1503. Whenever service of garnishment or attachment is made on an officer or agent, he must at once telegraph the Treasurer and Superintendent that such action has been taken, giving name of defendant and plaintiff, also occupation and location of defendant. He must also, unless otherwise instructed, report by wire to the Law Department and forward papers served, as directed above. Fees fixed by law are to be demanded and forwarded to the Treasurer.

1504. Except as provided by preceding rules, no action in case of legal proceedings will be taken except on order from counsel through proper authority.

PREVENTION OF FIRES.

1550. Vigilance must be used by all employes to prevent fires and they must familiarize themselves with the special instructions for prevention of fires and for the safe handling of explosives, inflammables and acids so far as such instructions apply to their duties.

1551. Keep the premises clean. Prevent accumulation of refuse in or about buildings, structures or cars.

Wooden boxes must not be used as spittoons or receptacles for ashes. Matches must be stored in metal or earthenware receptacles.

1552. Smoking is prohibited in or about buildings or cars containing inflammable material.

1553. Woodwork in close proximity to stoves or stovepipes must be protected by non-combustible covering. Stovepipes must be fastened securely in position and must have a clearance of at least four inches between stovepipe and woodwork. Unused openings in chimneys must be closed with thimble covers or bricked up.

1554. Ashes must not be deposited within twenty feet of any building or structure.

1555. Gasoline stoves or lamps must not be used.

1556. The supply of oil in lamps should not be allowed to get too low. Lamps should be cleaned and filled during daylight only and waste or rags used in cleaning them should be immediately burned or removed from buildings.

1557. The ground under wooden bridges must be kept free of grass, brush or rubbish. Where water barrels are provided they must be kept full of salted water and a bucket or rough board box kept submerged in each barrel.

1558. Cars stored on isolated tracks should be separated into cuts of ten cars each with one hundred feet between cuts.

1559. Boarding and outfit cars are hazardous fire risks and should be placed where there is least risk to other cars or buildings.

1560. Employes should familiarize themselves with the location of public fire alarms near Company property.

GENERAL.

1600. In taking new employes into the service, they will be carefully selected from among applicants whose intelligence, appearance, strength, age and character, indicate that their services will be satisfactory, and who will develop sufficiently to merit advancement. Applicants for employment must pass prescribed physical examinations.

1601. Unless otherwise instructed, minors must not be employed as brakemen, switchmen, firemen, or switch-tenders. When employed in other service they must have the written consent of parent or guardian, on prescribed form, which must be filed with the application for employment.

1602. Employes of the Railway must devote themselves exclusively to its service, attending during the prescribed hours of the day or night, and residing wherever required.

1603. No employe will absent himself from duty without proper authority.

1604. Employes must exercise care and economy in the use of all Railway property.

1605. Employes are forbidden to make charge or receive unusual fees or rewards for services performed in line of duty, or to offer testimonials to their superiors, either directly or indirectly; those in authority must not accept such testimonials or presents.

1606. All are prohibited from divulging information respecting the affairs of the Railway, except to authorized officials.

1607. Civil, gentlemanly deportment is required of all employes in their intercourse with the public, their subordinates and each other. Courtesy and attention to patrons is expected.

All employes are prohibited from entering into altercation with any person, regardless of provocation. They will make a note of the facts, if necessary, and report to their immediate superior.

1608. When an employe is discharged he shall not be re-employed without the permission of the General Superintendent.

1609. Messages must not be sent by telegraph where the use of train message will accomplish the same purpose. All messages must be briefly worded and confined to the Railway's business.

1610. All articles of value found on the Railway Company's property must be cared for and promptly reported to the Superintendent.

1611. Employes in charge of Railway's premises must keep them in neat, clean and orderly condition, and maintain good order and behavior thereon.

1612. Change in the arrangement or design of structures, cars, or other Railway property is prohibited, except under proper authority.

1613. Unless by written order from proper authority, only employes in the discharge of their duties are permitted to ride on engines, mail, express, baggage or hand cars.

1614. Assignments of pay are prohibited, and if made will be construed as withdrawal from the service.

1615. Unless there are special causes for leniency, an employe on a third garnishment will be dismissed.

1616. Each employe whose duties require him to have a ticket punch, switch or coach key, or other equipment for his personal use, will, at the time of issue, give a receipt for same, and will forfeit value thereof if not returned.

1617. In doing work in cities and villages all ordinances or laws must be observed; where by city ordinances fines are imposed for blocking crossings, trainmen are personally liable unless they can show that blocking was unavoidable.

1618. The speed of engines partially disconnected, or of trains containing dead engines that are disconnected, must be so reduced as to enable engine to ride steadily, and to prevent injury to track or structures by the unequal counterbalancing.

1619. Except on local trains, train and enginemen must secure permission from the train dispatcher before going to meals.

TRAIN DISPATCHERS.

1625. Train dispatchers report to the Chief Dispatcher.

1626. Train dispatchers will issue train orders over the initials of the Superintendent and will transmit and record them as prescribed by the rules. They will enter on the train sheet the information required by its form.

1627. The train dispatcher who is to be relieved must enter the numbers, in ink, of all unexpired orders, together with other information required, in the transfer book. Relieving dispatcher must carefully read such orders as are transferred to him, checking the number and address of each order in the transfer, and then sign such transfer. When an order is fulfilled he must check it off by writing his initials thereon. "X" drawn across the entire face of a page may be used to indicate that all orders up to and including that page have been fulfilled and that it is unnecessary for the relieving dispatcher to read back of such page.

1628. Train dispatchers must not depend on train order signals to hold trains in blizzards or in placing orders at meeting point for fast trains that have right of track.

STATION AGENTS.

1637. Station agents report to the Superintendent, and must conform to the instructions issued by the Freight, Passenger, Treasury and Accounting Departments, Assistant Superintendent and Trainmaster.

1638. They must devote their time exclusively to the business of the Railway, and not engage in other business without permission from the Superintendent.

1639. They will have charge of the sale of tickets, the receiving, delivering, forwarding and caring of freight, the collection of revenues of the Railway at their station, and will make reports and remittances in the manner prescribed.

1640. They are the custodians of the Railway's books and papers at their stations; also of the station grounds and buildings. They are required to acquaint themselves with existing authorities for their use and to see that no unauthorized use is made.

1641. They will have charge of employes at the station, seeing that they properly perform their duties; and must promptly report any misconduct or violation of the rules, or anything that is prejudicial to the Railway's interests or which may interfere with the safe and economical working of the Railway.

1642. They must acquaint themselves with the business interests of the people among whom they are situated, use all proper means to secure traffic and report all local matters which may affect the interests of the Railway.

OPERATORS.

1646. Telegraph and telephone operators, except those in relay offices who report to the manager, report to the Chief Dispatcher in all matters pertaining to the telegraph or telephone service and to the agent in all other matters.

1647. They must be constantly on duty during the hours assigned them and must not absent themselves without permission.

1648. When one operator relieves another, the operator relieved must make and sign a transfer in writing on the prescribed form, of all train orders, and instructions not fully executed, which the relieving operator will sign. The relieving operator must not handle train orders or train order signal until the transfer has been made.

1649. They must keep a full set of signals in good order and ready for immediate use.

1650. They must report promptly to the train dispatcher, fogs, storms or sudden weather changes.

1651. They must not permit any persons to frequent their offices, except authorized employes.

1652. They must consider all messages confidential, neither permitting them to be read by any person except those to whom they are addressed, nor making their contents the subject of conversation or remark.

YARDMASTERS.

1653. Yardmasters report to the Trainmaster, Assistant Superintendent, or Superintendent. They will perform work

ordered by agent or Chief Dispatcher, and are in charge of yard work, yard engines and crews, and train and engine crews, while in yards.

CONDUCTORS.

1654. Conductors report to Trainmaster, Assistant Superintendent and Superintendent. They will obey instructions of the Traffic, Accounting, Treasury, and Car Service Departments and are in charge of their trains and all employes thereon.

1655. They must report for duty at the appointed time and by personal attention insure departure on time. They must see that trains are equipped with proper tools, supplies, and signals, reporting any deficiency to their superior; while in yards conform to the orders of yardmaster; at stations, conform to orders of agents in placing cars and performing station work, replacing cars required for loading that may have been displaced by them. Ascertain before departure from terminals that trains have been inspected, air brakes and air whistle appliances tested, and equipment found to be in proper condition.

1656. They must not handle in trains cars in unsafe condition. They must take steps to protect defective cars, marking "Bad Order" on the waybill and reporting facts to agent, car inspector and Superintendent.

1657. They must require trainmen to watch and frequently inspect trains and give hot boxes prompt attention.

1658. They must report to the Superintendent, to other trains met, and to track or bridge foremen if in the vicinity, of any conditions that would endanger trains, leaving a trainman where necessary to protect following trains.

1659. They must expedite handling of trains, performance of station work, and, if necessary at night, to avoid serious delay at points where there is no night service, call day operator.

1660. They must secure cars left at stations, first releasing air brakes, then setting hand brakes, and also blocking where necessary; set derails, and leave no cars on passing tracks except by authority of the Superintendent.

1661. They must deliver articles found in cabooses or passenger cars, properly marked for identification, to the ticket agent at subdivision terminal or other authorized person.

1662. They must not allow beggars, gamblers, hotel solicitors, or other unauthorized persons, to practice their vocations or distribute advertising matter on trains.

1663. They must not allow any person to ride free except as specially provided, and must collect fares from all persons traveling without regular transportation.

1664. Circumstances under which persons may be ejected from trains are fully covered below:

A passenger who refuses to pay his fare, or to conform to any lawful regulation of the carrier, may be ejected from the vehicle by the carrier. This must be done with as little violence as possible, and at a usual stopping place or near some dwelling house. A passenger upon a railroad train who has not paid his fare before entering the train, if he has been offered an opportunity to do so, must upon demand pay such train rate in addition to the regular ticket rate as may be provided by the rules of the Passenger Department. A Railway has a lien upon the baggage of a passenger for the payment of such fare as it is entitled to from him.

In case a person is by reason of any infirmity unable to travel or find his way from the point where he is put off to a dwelling house or town, or if the weather be so inclement as to render it unsafe or inhuman to eject a person at a point other than a station, then such person should be ejected from the train at a station where suitable accommodations for safety and comfort can be procured.

Intoxicated or disorderly persons, or a passenger who is guilty of gross misconduct, either by insulting or assaulting other passengers or train employes, who uses vile or profane language in the car, or who threatens to assault other passengers or train employes, may lawfully be expelled from the train at any usual stopping place or near a dwelling house or station, provided the place be not such as to cause want or injury; this may be done whether fare has been paid or not. All ejections must be reported.

1665. They must supervise the work of train crew, instruct brakemen in regard to work to be performed, ascertain that rules and regulations are understood, see that they are complied with; report to the Trainmaster, Assistant Superintendent, or Superintendent regarding unsatisfactory service, improper equipment, lack of facilities, or other matters concerning the safe, prompt, and economical handling of trains.

1666. In case of accident, blockade or other emergency, the senior conductor on the ground will direct the work.

PASSENGER CONDUCTORS.

1667. Should a passenger engine fail they will take the engine from any inferior train and, in case of casualty to train, command the services of all employes.

1668. They must familiarize themselves with instructions governing heating and lighting cars and see that they are enforced. Detailed instructions are posted in cars.

1669. They will attend to ventilating, cleaning and supplying cars, and to closing car doors; provide for the comfort and safety of passengers; see that they are directed to the proper cars, that seats are provided, and that women, children, and infirm persons are assisted; protect them against rudeness, threatened violence, abusive or obscene language, or annoyance from intoxicated or quarrelsome persons.

1670. They must permit no train employes to enter or pass through dining, sleeping or private cars, except when necessary in the discharge of duty; when passing through dining cars during meal hours, or through private cars, train employes other than conductor when lifting tickets, will remove their caps.

1671. Upon request, they will give passengers all the information practicable regarding time of trains, connections, and other matters which will assist them in reaching their destination. After departing from a station the name of the next station at which the train stops for passengers will be announced in each coach. On approaching such station, the conductor or brakeman must again pass through each coach, stop twice, and announce

each time distinctly, with closed doors, the name of the station. At junction stations the names of the principal stations where connecting trains stop must be announced. See that employes of sleeping and parlor cars advise their passengers when they are to leave the train. At junctions, where trains leave in different directions, cause to be announced distinctly in each passenger car before starting, the direction in which the train is to go, and the principal stations on the route.

1672. They must promptly, after departure from station, collect and cancel transportation, and inform passengers who will be required to change to other cars or trains in order to reach their destinations.

FREIGHT CONDUCTORS.

1675. They are personally responsible for care of freight while in their charge.

When conductors transfer freight from one car to another, full information must be entered on face of the waybill, including the date, and point of transfer, the initials and number of car to which the transfer is made, and "Over, Short and Damaged" exceptions.

1676. When notified that loaded cars are ready for their trains at side tracks which are reached before the billing station for such tracks, they may take the cars to the billing station, where they must procure the proper billing or leave the cars. When the billing station is reached first, they may take the billing for cars that they are notified by the agent are ready to go forward from such side track; but if the cars are found not ready to go, they must promptly return the billing by train mail to the billing agent, stating why the cars were not taken.

1677. If there is no agent where freight is left, they must check upon the waybill all freight so left, making the proper record on the face of the waybill of all freight, Over, Short and Damaged, and must deliver any freight, Over at such points, to the agent at the billing station for such points.

1678. When taking freight from a station where there is no agent, they must carefully check the freight, see that it is accom-

panied by a shipping order, and that such orders are delivered to the billing agent for such points, who will furnish the proper billing.

1679. If necessary to set out cars short of their destination or before reaching the end of run, they must report by telegraph, in the absence of orders authorizing the setting out of such cars, to the Superintendent, giving numbers, destination and cause for setting cars out. Waybills will be left with agent, or, if no agent, at point where car is set out, at the first station where there is an agent, with proper indorsement showing why and where car was left.

If cars containing valuable equipment or freight liable to be stolen, are set out short of destination at a point where there is no agent, steps must be taken to protect property.

1680. When necessary to move cars on station tracks, they must see that persons loading or unloading cars thereon are notified before the cars are moved.

1681. They must conform to wishes of attendants in matters pertaining to care and comfort of live stock, except when such wishes conflict with the rules and regulations; give live stock unaccompanied by attendants such care as is necessary for its comfort.

1682. They must protect perishable shipments, and report by telegraph in advance as to supplies required for this purpose.

1683. They must check all freight loaded by them with the waybills, making the proper record on face of waybill of anything Over, Short, or Damaged. After unloading they must see that freight left in cars is properly stowed.

1684. They must see that doors of empty cars in their trains are closed and securely fastened, and that doors of loaded cars are closed and properly sealed unless otherwise provided. Special instructions relative to sealing cars, and to the ventilation of perishable commodities, must be closely observed.

1685. They must not permit unauthorized persons to inspect or make changes in waybills.

1686. They must leave a switch list at yard office at end of run, showing all cars in train, commencing at head end, to what points billed and whether loaded or empty.

1687. They must see that their cabooses are kept in clean and neat condition.

1688. Freight trains authorized to carry passengers will be designated on time-table or by special order of the Superintendent.

1689. Attendants with livestock or other freight requiring attention en route, may be carried on same train with it when provided with proper transportation.

PASSENGER BRAKEMEN.

1690. Passenger brakemen report to the Trainmaster or Assistant Superintendent and, while on duty, are under the direction of the conductor.

1691. They must report for duty at the appointed time; assist in making up the train if necessary; give courteous attention to the wants of passengers, avoiding unnecessary conversation, and will not occupy seats with passengers if others are available.

1692. It is their duty to watch brakes closely to prevent flattening or overheating wheels; take care of and properly display train signals; attend to the lighting, heating and ventilation of all cars; open and close the car and platform doors and assist the conductor in the proper disposition of passengers, in preventing them from violating the regulations provided for their safety, in preserving order, and in all things requisite for the prompt and safe movement of the train and the comfort of passengers.

1693. They must not take tail lights through dining, sleeping, observation or private cars when it can be avoided.

1694. Unless otherwise provided, the post of the rear brakeman, or flagman, is on the last car of the train when practicable. He must immediately go back to protect the train, where the rules require it, without waiting for signal or instructions to do so.

FREIGHT BRAKEMEN.

1695. Freight brakemen report to the Trainmaster or Assistant Superintendent and, while on duty, they are under the direction of the conductor. When acting as front brakeman, obey orders of engineman in all matters pertaining to safety of train.

1696. They must report for duty at the appointed time and assist in making up the train when necessary.

1697. They must when starting watch closely to see that brakes are fully released; be provided with, take care of, and properly display train signals; assist the conductor in loading or unloading freight, in inspecting the cars, and in all things requisite for the safe and prompt movement of the train.

1698. When not engaged in duty elsewhere, they must occupy the posts assigned to them. The rear brakeman, or flagman, must immediately go back to protect the train, where the rules require it, without waiting for signal or instructions to do so. The front brakeman must in like manner protect the front of the train.

1699. They must be on top of the train approaching terminals, through localities where extra precaution is required, and except during inclement weather, descending mountain grades, to assist in holding train or to pass signals.

ENGINEMEN.

1700. Enginemen report to the Master Mechanic and Superintendent. They must obey orders of the roundhouse foreman and road foreman of engines and conform to instructions of the Trainmaster or Assistant Superintendent in transportation matters. They are in charge of and responsible for their engines.

1701. They must report for duty at the appointed time; before starting, inspect all bulletins, and see that engine is supplied with all signals, tools and equipment.

1702. When running at night they must have in their cabs, where it cannot be seen by passing trains, a lighted red lamp with torpedoes attached, also fusees, ready for immediate use.

1703. They must prevent unnecessary noise, or escape of steam or smoke, that might frighten horses or constitute a nuisance.

1704. They must see that ash pans and front ends are cleaned only at cinder pits or at designated locations, and that fire is extinguished; use every precaution to prevent danger of fires from ashes or cinders especially while crossing timber structures.

1705. It is the duty of the engineman to handle the engine at all times, but he may permit his fireman to do so under his supervision, the engineman being responsible for the movement.

1706. They must direct work of firemen, and of front brakemen in the absence of conductor so far as safety is concerned.

1707. They must, when located at isolated stations, obtain permission from proper authority before being absent during layover hours.

1708. Whenever a train is run without a conductor, the movement will be in charge of the engineman.

FIREMEN.

1713. Firemen report to the Master Mechanic. They must obey the orders of the roundhouse foreman and road foreman of engines; they will conform to instructions of Trainmaster or Assistant Superintendent in transportation matters; when on duty they are subordinate to the engineman.

They must assist engineman in the observance of rules for enginemen and must comply with those rules applicable to firemen.

1714. They must report for duty at the appointed time and, before starting on each trip, see that signals are in a clean and serviceable condition.

1715. They must not go underneath engines to do any work except by advice of the engineman; be familiar with rules that apply to trains, and the use of signals.

1716. They must protect the front of the train when necessary.

CAR INSPECTORS.

1717. Car inspectors report to the foreman or Master Mechanic; when inspecting or working beneath cars they must protect themselves by the use of blue signals as per Rule 26. They must see that all cars are in proper condition for service, fully supplied, that loading is in accordance with requirements and that such cars can be safely handled; report cases of improper or overloading to the agent; inspect air brake and signal appliances of all trains before starting.

TRACK AND BRIDGE MEN.

1718. Report to the foreman, roadmaster, or supervisor.

1719. They must always bear in mind that trains may be expected at any moment, and take all necessary precautions for protection.

On hand-cars one man must face to the rear, so lookout will be kept in both directions; after dark a light visible to both front and rear must be carried on car.

1720. They must at all times be in readiness to aid passage of trains; in case of accident or delay, assist conductors.

1721. They must, in case of extraordinary storms or high water, be out, day or night, with proper signals; watch places most liable to damage and take every precaution to prevent accident.

1722. They must promptly report all occurrences affecting Railway interests, and report by telegraph to immediate superior and Superintendent anything affecting safety of track or movement of trains.

1723. Except when protected by flag they must not use track jacks inside of rails.

1724. They must extinguish fires on or near the right-of-way. Property of others, as well as that of the Railway, exposed to such fires, must be protected.

1725. They must pay particular attention to the telegraph line; if wires are found broken, on the ground, crossed, or in any way obstructed, immediately repair in a temporary manner;

where such repairs are impossible, give notice by the earliest means practicable.

1726. They must restrict the use of motor, hand, or velocipede cars, or other railway property to railway business.

1727. They must promptly kill animals injured beyond recovery; bury or otherwise dispose of them, and also those killed by trains.

FOREMEN.

1728. They must observe signal rules and cautionary orders, and perform no work which will render track unsafe for usual speed except as prescribed by the rules. They must select careful, thoroughly instructed men as flagmen.

When track is to be made unsafe for trains at usual speed, a flagman, except as provided in Rule 1728-A, will be stationed at a distance of not less than three-quarters of a mile, 130 rail lengths, on each side of the point of obstruction and where there is an unobstructed view for at least a quarter of a mile beyond. Two torpedoes will be placed on the rail, two rail lengths apart on the engineman's side, ten rail lengths beyond the flagman. On the approach of a train the flagman will display caution signals until acknowledged by the engineman in accordance with Rule 14 (g).

At a distance of not less than twenty rail lengths on each side of point of obstruction, a red flag by day, stretched between two staffs at right angles to the track and three feet or more above the rail, or a red light by night, will be placed on the engineman's side (except in multiple track territory where the flag or light may, when necessary, be placed between the rails) where it can be plainly seen by an approaching train, and, in addition, two torpedoes will be placed on the rail, two rail lengths apart on the engineman's side, ten rail lengths beyond the red flag or red light. These signals must not be removed until track has been made safe for trains to proceed without stopping. Trains stopped by these signals must be governed by signal or instructions from the foreman in charge, who, in giving such signal, must use a yellow flag by day or a yellow light by night.

1728-A. Where specified by the Superintendent, a fixed yellow flag by day or a yellow light by night may be used (except during fog, storms or otherwise bad weather) in place of the flagman provided in Rule 1728. The flag must be stretched between two staffs at right angles to the track and three feet or more above the rail, placed on the engineman's side where there is an unobstructed view for at least one-quarter of a mile beyond. By night the yellow light must be three feet or more above the rail and placed in the same manner. Two torpedoes will be placed on the rail two rail lengths apart on the engineman's side ten rail lengths beyond the flag or light. Trains finding these signals may proceed at restricted speed to the red signal provided in Rule 1728 and from there shall be governed by signal or instructions from the foreman in charge, who, in giving such signal, must use a yellow flag by day or a yellow light by night.

1729. They must carry a reliable watch and always have with them a copy of the current time-table.

1730. They must see that watchmen understand and attend to their duties.

1731. They must work with their men unless they have a large number of men in charge.

1732. They must be sure that their crews are always supplied with proper signals and thoroughly instructed as to the use of same.

1733. They must protect material and tools, and store all unused and surplus material, scrap, and extra tools in places provided therefor.

TRACK FOREMEN.

1735. They must closely inspect sections as often as possible; pass over or send one of their men, during storms when the road is liable to be damaged, at least once every day or more frequently during the continuance of storms if circumstances demand; pass, or send one of their men, over track under their charge, when no damage thereto is threatened by storms or unusual conditions, at such intervals as may be specified by the roadmaster or other proper

authority, or as may be necessary to insure safety. In going over track as above, take a track wrench, spike maul, six torpedoes, three red flags, and (when likely to be needed) one white and two red lamps. Carefully examine road to see if safe for passage of trains. If any place is found unsafe, it must be protected at once by a flagman with red signals and torpedoes. Observe all main track switches and see that they are securely locked.

1736. They must give attention to condition and appearance of station grounds, platforms, water stations, fences, telegraph lines, stockyards, bridges, culverts, cattle guards and all property, making minor repairs and reporting defective conditions. Protect all frogs, guard rails, switch rails, and other locations of a like nature with foot guard blocking.

1737. They must not allow wood, timber, freight or material of any kind within six feet of main tracks nor within five and one-half feet of side tracks. The exact location of elevators, warehouses, coal yards, lumber yards, or wood yards will be fixed by the Superintendent.

1738. They must become familiar with right-of-way and property lines, prevent encroachments of any character by outside or unauthorized persons, and report any threatened encroachments. They must arrange the rounds of road watchmen or track walkers so they will pass over their sections in advance of passenger trains when practicable.

WATCHMEN.

1739. Day and night watchmen employed on the same beat must remain on duty until relieved.

1740. When their time is not wholly occupied, they will perform such other duties as may be required.

1741. They must carefully examine roadway; look for broken rails, observe switches, try locks and see that they are in proper order; see that cars clear main track; examine buildings and other property, and protect same from theft, fire, or other damage. Should an obstruction be found, or anything occur that would be liable to endanger trains, immediately protect them.

1742. They must report promptly any accident, risk of accident, or occurrence not consistent with safety or good order.

1743. Bridge and snow-shed watchmen must pass over their beats immediately after passage of trains; look for fire, maintain cleanliness about structures, remove combustible matter from their vicinity; make frequent examinations, and report any indication of failure, and allow no one but employes upon bridges or structures.

1744. Street crossing watchmen must keep vigilant lookout for all trains or engines; warn vehicles and pedestrians of approach of trains or engines and prevent their crossing until safe; stand where they can be seen by enginemen; keep lamps at crossings clean and lighted between sunset and sunrise and during foggy weather; flange rails at crossings; and report all defects in track or crossing planks. Watchmen's houses are for use of watchmen only and must not be occupied by others.