

Chicago, Milwaukee & St. Paul Railway Company

IOWA AND MINNESOTA DIVISION

SPECIAL INSTRUCTIONS

GOVERNING

OPERATION OF THE STAFF SYSTEM

BETWEEN

RAMSEY, MINN.

AND

C. G. W. CROSSING, AUSTIN, MINN.

Issued December 25th, 1905

Chicago, Milwaukee & St. Paul Railway Co.

IOWA AND MINNESOTA DIVISION.

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Operation of the Train Staff System

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**Ramsey, Minn., and Chicago Great Western Crossing,
Austin, Minn,**

A Train Staff System, superseding the present method of moving trains between Chicago Great Western Crossing and Ramsey, and operated under the instructions herein, will be put in service on a date which will be announced by Special Telegraphic Bulletin. Conductors and Engineers must familiarize themselves with these instructions, and be prepared for examination.

DESCRIPTION OF THE SYSTEM.

The working of the Train Staff System is effected by the erection in the Tower at Chicago Great Western Crossing, and Telegraph

Office at Ramsey, of a Staff Instrument, which is in charge of the Operator on duty. The two instruments are electrically connected, and it is impossible to operate one without the knowledge and co-operation of the Operator in charge of the other.

The main track between Chicago Great Western Crossing and Ramsey will constitute the section to be operated under the Staff System.

No train or engine will use any portion of the section unless the Engineer has a staff, in accordance with the rules.

A Train Staff in the actual possession of the Engineer is the necessary authority for the movement of a train in either direction.

But one staff can be taken from an instrument at one time. When a staff has been withdrawn from one instrument, another can not be withdrawn from either instrument until the staff previously removed has been replaced in one of the instruments.

INSTRUCTIONS TO CONDUCTORS AND ENGINEERS.

1. No train or engine will be run in either direction, between Chicago Great Western Crossing and Ramsey, unless the Engineer

has in his possession a staff, which must be retained so long as his train, or any part of it, is in the section. The possession of a staff is authority for the Engineer to proceed, regardless of opposing trains, provided that the train order signal is at Clear, or Clearance Card, in accordance with the rules, has been obtained, and Conductor's signal has been given.

2. The west bound semaphore at Chicago Great Western Crossing, or the east bound semaphore at east end of "Y" at Ramsey, when clear, will indicate that a staff has been removed from the machine and is ready for delivery to the train about to enter the section. The signals do not convey any rights to the use of the section. The Ramsey signal will also be used as a Train Order Signal according to General Rules, and Block Signal according to Block Rules.

3. Except as provided in Rule No. 4, the Conductor is the only person authorized to receive a staff from the Operator in charge, and he must immediately deliver it to the Engineer.

4. At Chicago Great Western Crossing the Engineer is authorized to receive staff from Operator in charge, or take staff

from the staff crane, as the train enters the section.

5. A train entering the section at any switch between Chicago Great Western Crossing and Ramsey must procure a staff, in accordance with the rules.

6. In case of trains entering section to do switching, the staff must be retained by the Engineer until all of the train is clear of the section.

7. In case a train parts, or it is necessary to double, the staff must be retained by the Engineer until all of the train is clear of the section.

8. Under no circumstances will a staff be transferred from one train to another. It must invariably be delivered to the Operator strictly in accordance with these instructions.

9. When two or more engines are coupled together, the Engineer of the head engine must carry the staff.

10. In case of failure of the staff apparatus, trains will be moved by special telegraph orders, as per General Rules.

11. Engineers and Conductors will at all times handle the staff so as not to batter or injure it.

All Rules relating to the protection of Trains

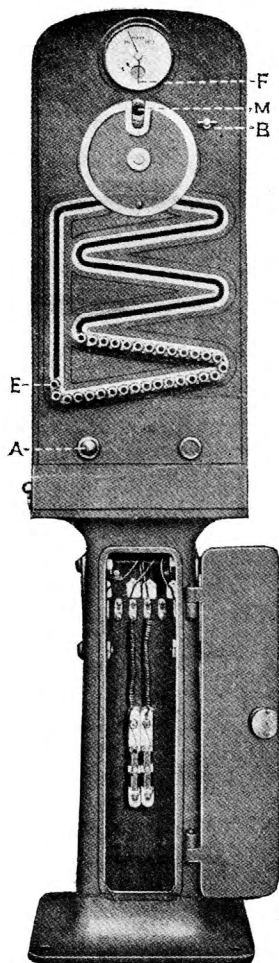


Fig. 1.
ELECTRIC HIGH SPEED TRAIN STAFF—MODEL No. 2.
Front View of Instrument with all staffs in.

are in force, and the General Rules are only modified by the Special Instructions herein.

INSTRUCTIONS TO TELEGRAPH OPERATORS.

12. The Operators at Chicago Great Western Crossing and Ramsey will have charge of the train staff instruments at these places. The Operator on duty at Austin Station will act as Dispatcher, and have control of the traffic. He must keep himself informed in regard to the position of trains, and be prepared to give important trains the preference.

To move a train from Ramsey to Chicago Great Western Crossing, the manipulation of the instruments is as follows:

The Operator at Ramsey will press bell key (A, Fig. 1) once, which rings bell at Chicago Great Western Crossing. The Operator at Chicago Great Western Crossing will first acknowledge receipt on his bell key and then hold it closed, thereby deflecting the "current indicating needle" (F, Fig. 2) at Ramsey to the right. This informs Ramsey that Chicago Great Western Crossing has furnished Ramsey current, and he will proceed to remove the staff by turning the preliminary spindle handle (B, Fig. 1) to the right as far as it will go, and then permit

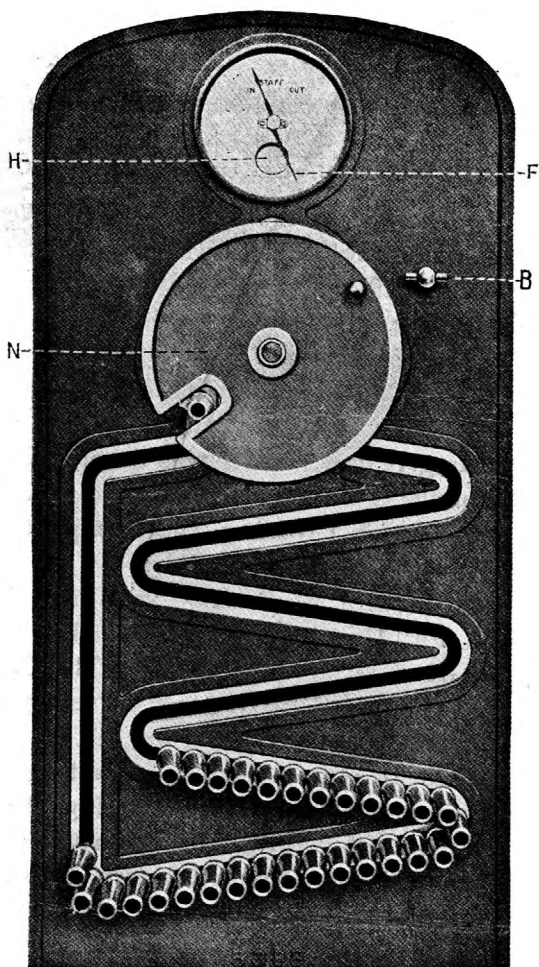


Fig. 2.
ELECTRIC HIGH SPEED TRAIN STAFF—MODEL No. 2.
Front View of head when instrument is in condition
for the removal of a staff.

it to automatically return to its normal position. This unlocks the machine, and indicates the fact by displaying a white instead of a red disk in the indicator at Ramsey (H, Fig. 2).

The Operator will now move the end staff (E, Fig. 1) up the vertical slot into engagement with the outer guard (N, Fig. 2), it having first been turned to the right position, revolve the latter through one-third of a turn, using the staff as a handle, and finally withdraw the staff through the opening at (M, Figs. 1 and 3).

In making the one-third of a turn, the "staff indicating needle" (G, Fig. 3) at Ramsey moved from "STAFF IN" to "STAFF OUT." Immediately on withdrawing the staff, the Operator at Ramsey once more will press his bell key (A, Fig. 1), which indicates to the Operator at Chicago Great Western Crossing, by moving his needle from "STAFF IN" to "STAFF OUT," that the operation is completed.

When a staff has been withdrawn from the machine, the proper signal will be displayed and the staff delivered to the Conductor of the train about to enter the section. After departure of the train, the signal will be promptly returned to the Stop position.

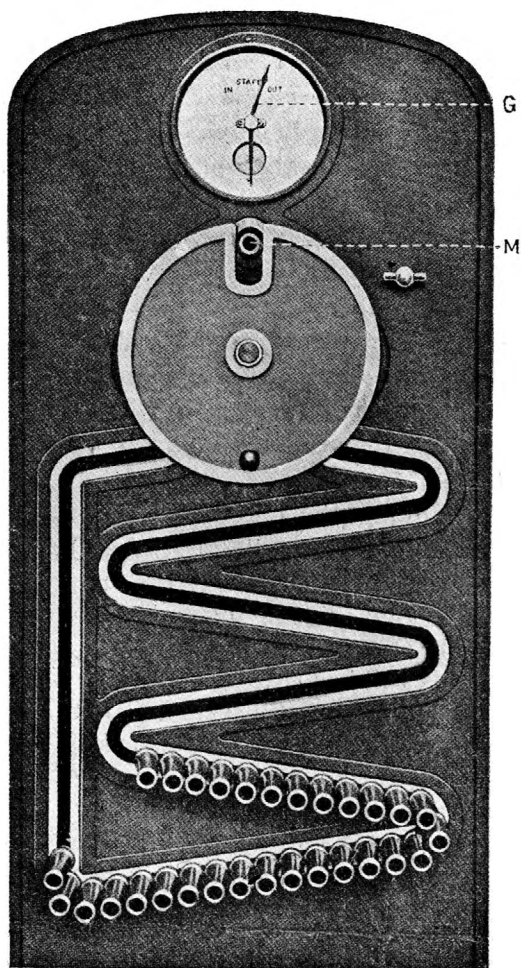


Fig. 3.
ELECTRIC HIGH SPEED TRAIN STAFF—MODEL No. 2.
 Front view of head when a staff is released,
 or about to be inserted.

On arrival of the train at Chicago Great Western Crossing, the Engineer or Conductor will deliver the staff to the Operator in charge, who will, AFTER SEEING THE MARKERS, place the staff in the opening (M, Figs 1 and 3) of his instrument, having first turned the outer guard (N, Fig. 2) to place, move the staff into engagement with and revolve latter through one-third of a turn, using the staff as a handle, and allow staff to roll down the spiral. He will then press his bell key twice, thus notifying Ramsey that the train is out of the section, which operation also moves the "staff indicating needle" at Ramsey from "STAFF OUT" to "STAFF IN."

The Operator at Ramsey will press his bell key twice in acknowledgment, and by so doing moves the "staff indicating needle" at Chicago Great Western Crossing from "STAFF OUT" to "STAFF IN."

The machines are now synchronized, and another staff can be obtained from either in the manner above outlined.

13. The Operator in charge must not deliver staff to any person except Conductor of train to enter the section, except at Chicago Great Western Crossing, where staff may be delivered to the Engineer.

14. Operators must not deliver a staff received from a train to another train, until it has been placed in the instrument and withdrawn, in strict accordance with the rules.

15. Operators must not place a staff in the instrument, or report a train to the Operator at the other end as arrived or departed, until he has **POSITIVELY SEEN THE MARKERS** and knows that all the train has cleared the section in the direction in which it is moving.

16. Operators at Austin and Ramsey will report trains and keep record on train sheets, as required by the rules.

17. Should the apparatus fail, trains will be moved between Austin Station and Ramsey by the Train Dispatcher, as per General Rules relating to the movement of trains, by telegraph.

18. In case of failure, an examination is to be made of the fuse wires, the lightning arresters and the batteries, to see that there are no broken jars or wires, and that no binding screws are loose.

19. The batteries are to be tested by placing a wire across the terminals, and if a spark is obtained when circuit is broken, it indicates that batteries are in good order,

and the trouble is to be looked for elsewhere. In case no spark is obtained, a test should be made by dropping off one cell each time until a spark is obtained, which will indicate that the jar last tested is not working and should be removed, the wires of the adjoining cells being connected.

20. During storms, the switches of lightning arrester should be opened, to prevent lightning getting into and destroying staff instrument. If wires should become fused, new ones are to be put in.

21. Any failure of staff instruments should be reported immediately by wire to Superintendent and Signal Foreman. In case of failure, and the Operator is able to make repairs, a full report, giving cause of trouble and what was done by Operator, is to be made by letter to Superintendent and Signal Foreman.

E. CLEMONS,

Superintendent.

Approved:

E. D. SEWALL,

Ass't Gen'l Superintendent.

