

# THE AIR BRAKE

## (PART 4)

### EXAMINATION QUESTIONS

- (1) How does the car discharge-valve operate? ART. 7.
- (2) (a) How much pressure must be carried with the new style signal reducing valve? (b) How much with the old style? (a) and (b) ART. 2.
- (3) How much pressure is carried in the train line of the high-speed brake? ART. 23.
- (4) A train that is at present fitted with the ordinary quick-action brake, is to be equipped with the Westinghouse special apparatus; what changes must be made in the existing equipment? ART. 31.
- (5) What code of air signals is in use on your road for signaling the engineer to apply and release brakes during a terminal test?
- (6) Should a car discharge valve become disabled, how and where would you cut it out? ART. 7.
- (7) With the high-speed brake, about 85 pounds is obtained in the brake cylinder in an emergency application; as the speed slows down, this pressure gradually drops to 60 pounds. How is this accomplished? ART. 25.
- (8) (a) How and when should the signal apparatus on the engine be tested? (b) Is a test reliable that is made by means of the stop-cock at the rear of the tender or front of the engine? Explain. ART. 19 and 20.
- (9) With the high-speed brake, 110 pounds pressure is usually carried in the train line. How much is it necessary to reduce train-line pressure in order that a full service application may be obtained? ART. 28.
- (10) How much pressure is carried in the train line when using the Westinghouse special apparatus for controlling trains of large-capacity cars down heavy grades? ART. 33.
- (11) If the signal whistle gives only a weak blast when the cord is pulled, to what would you attribute the trouble? ART. 17.
- (12) Explain the operation of the high-speed automatic reducing-valve. ART. 25.

(13) When the handle of the cut-out cock stands parallel, or in line, with the signal pipe, is the cock open or closed? ART. 7.

(14) Should dirt get on the seat of a car discharge valve (this would be indicated by a constant blow at exhaust port of the valve), how would you remove it? ART. 17.

(15) On what class of trains is the high-speed brake chiefly used, and why is it necessary on these trains more than on others? ART. 21.

(16) If, on pulling the signal cord on a car, you obtain a very long blast from the whistle, where would you suspect the trouble to lie? ART. 15.

(17) If, in testing the brakes of a train equipped with the high-speed apparatus, you noticed a blow from the exhaust port of the reducing valve while brakes were being set, would you infer that the valve was working all right? Explain. ART. 25.

(18) (a) How can the air signal be operated most successfully from cars? Explain. (b) What time should elapse between two successive discharges from the car discharge valve? Explain. (a) and (b) ART. 10.

(19) When, only, should the small safety valve shown at A in Fig. 8, *The Air Brake*, Part 4, be used in high-speed service? ART. 27.

(20) **ON YOUR ROAD!** (a) Does the conductor signal the engineer by hand or by air signal, when starting? If the latter, what is the code? (b) How many blasts of the whistle are given when it is desired that the engineer shall stop at a flag station?

(21) What changes are necessary in the apparatus of the ordinary quick-action brake to convert it into the high-speed brake? ART. 23.

(22) If the signal line fails to charge, where would you look for the cause? ART. 12.

(23) If a signal can be transmitted from the forward cars of a long train, but not from the rear cars, where would you look for the cause of the trouble? ART. 17.

(24) If the signal whistle does not blow when the signal cord is pulled, where would you look for the cause? ART. 14.

(25) What are the advantages of the high-speed brake over the ordinary quick-action brake? ARTS. 21 and 28.