

THE NEW YORK AIR BRAKE

(PART 1)

EXAMINATION QUESTIONS

- (1) How does the handle of the retaining valve stand: (a) when the valve is cut into service? (b) when it is cut out of service? (a) and (b) ART. 39.
- (2) (a) How great a train-pipe reduction (from 70 pounds) is necessary to get a full-service application of the brakes? (b) Would a still greater reduction set the brake any harder, and would it be advisable to do so? Give reasons for your answer. (c) When a brake is set with a full-service application, how much pressure is there in the auxiliary reservoir, and how much in the brake cylinder? (a) and (b) ART. 26; (c). ART. 1?
- (3) Name the parts of the quick-action triple valve that are not found in the plain triple valve. ART. 30.
- (4) Speaking generally: (a) what will cause the brakes to set? (b) what will cause the brakes to release? (a) ART. 24; (b) ART. 27.
- (5) When the train-pipe is fully charged, and the triples are in release position, how much pressure will there be in the train-pipe, auxiliary reservoirs, and brake cylinders? ART. 23.
- (6) Can an emergency application of the brakes be obtained by making a gradual heavy reduction of train-pipe pressure? Explain. ARTS. 31 and 32.
- (7) What is the difference in the air-brake equipment of a passenger car and a freight car? ART. 35.
- (8) (a) Does a plain triple set the brake more quickly in an emergency than in a service application? Explain in full. (b) Does a quick-action triple, and, if so, why? (a) ART. 28; (b) ART. 32.
- (9) How far must the brake piston travel before the leakage groove is covered? ART. 36.
- (10) With the present type of retaining valve cut into service, how long will it take the brake-cylinder pressure to reduce from 50 to 15 pounds, the piston travel being 8 inches? ART. 39.
- (11) Where does all the air that enters the brake cylinder during an emergency application come from, with: (a) the plain triple? (b) the quick-action triple? (a) ART. 28; (b) ART. 33.

(12) How great a train-pipe reduction is necessary to get a full-emergency application of the brakes: (a) with plain triples? (b) with quick-action triples? Explain fully. (a) ART. 28; (b) (?)

(13) Does the triple-exhaust valve 38 move every time the piston does? ART. 20.

(14) Does the graduating valve 48 move every time with the piston? ART. 20.

(15) Where is the main reservoir usually located, and how much pressure does it usually carry? ARTS. 14 and 15.

(16) Explain how the plain triple works, and trace the flow of air through it: (a) in releasing the brakes; (b) in making two reductions during a service application; and (c) in an emergency application. (a) ART. 27; (b) ARTS. 24 and 25; (c) ART. 28.

(17) What is the duty of the retaining valve? ART. 38.

(18) Name the essential parts of the New York automatic brake, and state the duty of each. ARTS. 1 to 12.

(19) (a) What are the three duties of a triple valve? (b) What is the duty of the graduating valve in a triple, and how does it work? (c) What is the duty of the triple piston? (a) ART. 22; (b) and (c) ART. 19.

(20) (a) Why are brake cylinders provided with a leakage groove similar to that marked *a* in Fig. 8? (b) What returns the brake-cylinder piston to release position when the brake is released? (a) and (b) ART. 36.

(21) How long will it take an empty auxiliary reservoir to charge up to 70 pounds from a train-pipe pressure of 70 pounds? ART. 23.

(22) What is the duty of the bleed cock 17, Fig. 8, and how is it used? ART. 36.

(23) Explain how the quick-action triple works, and trace the flow of air through it: (a) in a service application; (b) in an emergency application. (a) ART. 31; (b) ARTS. 32, 33, and 34.

(24) (a) What constitutes the emergency part of the quick-action triple? (b) What is the duty of the rubber-seated emergency valve 138? (c) What is the duty of the check-valve 117? (d) What is the duty of the rubber-seated vent valve 71? (a) ART. 30; (b) ART. 33; (c) ART. 34; (d) ART. 33.

(25) Can the brake on any car be cut out without interfering with the rest of the brakes on the train, and, if so, how? ART. 8.