

No. 894,608.

PATENTED JULY 28, 1908.

W. T. CRUMPLER & J. L. CRISLER.

AIR BRAKE SYSTEM.

APPLICATION FILED JAN. 9, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

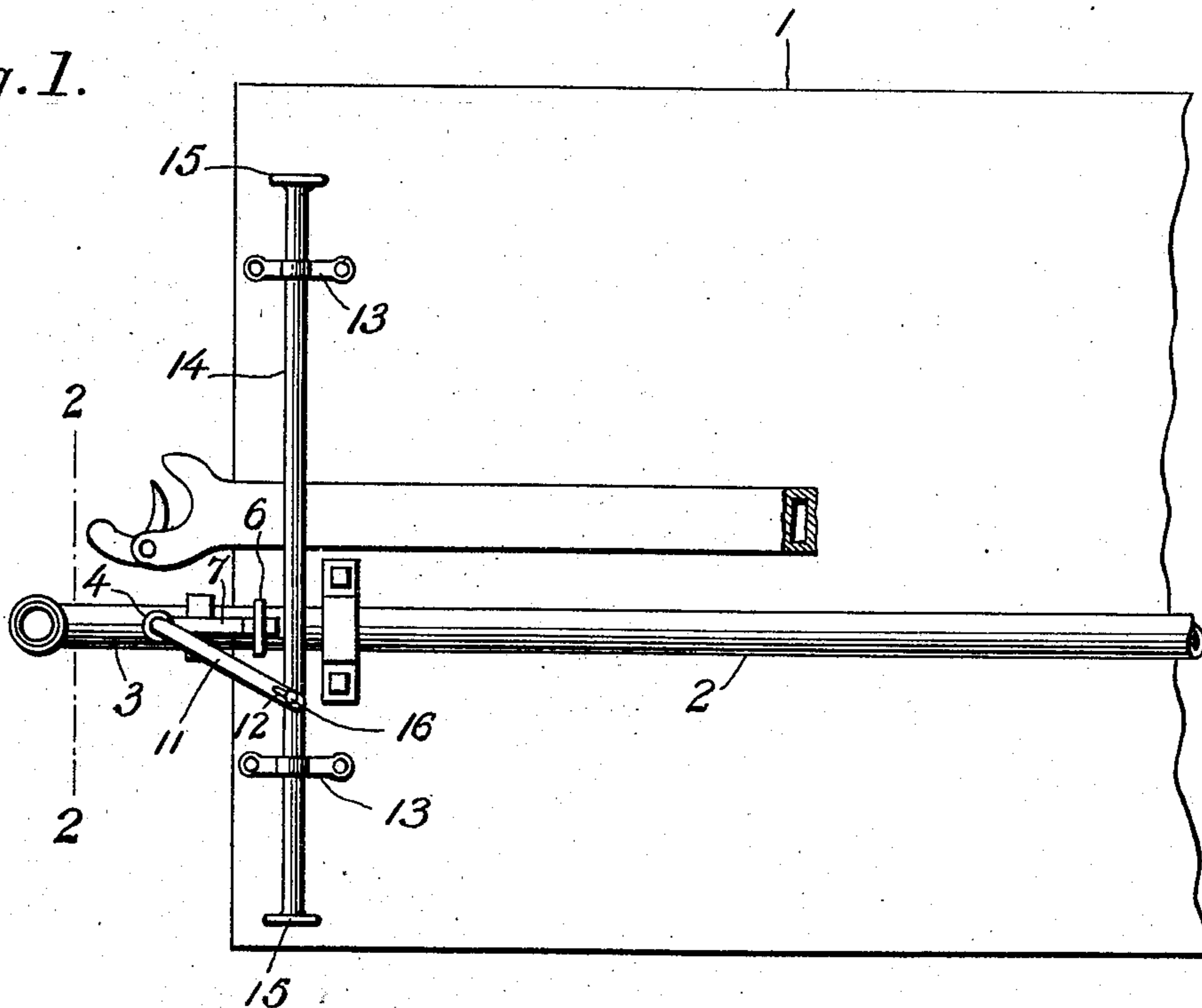
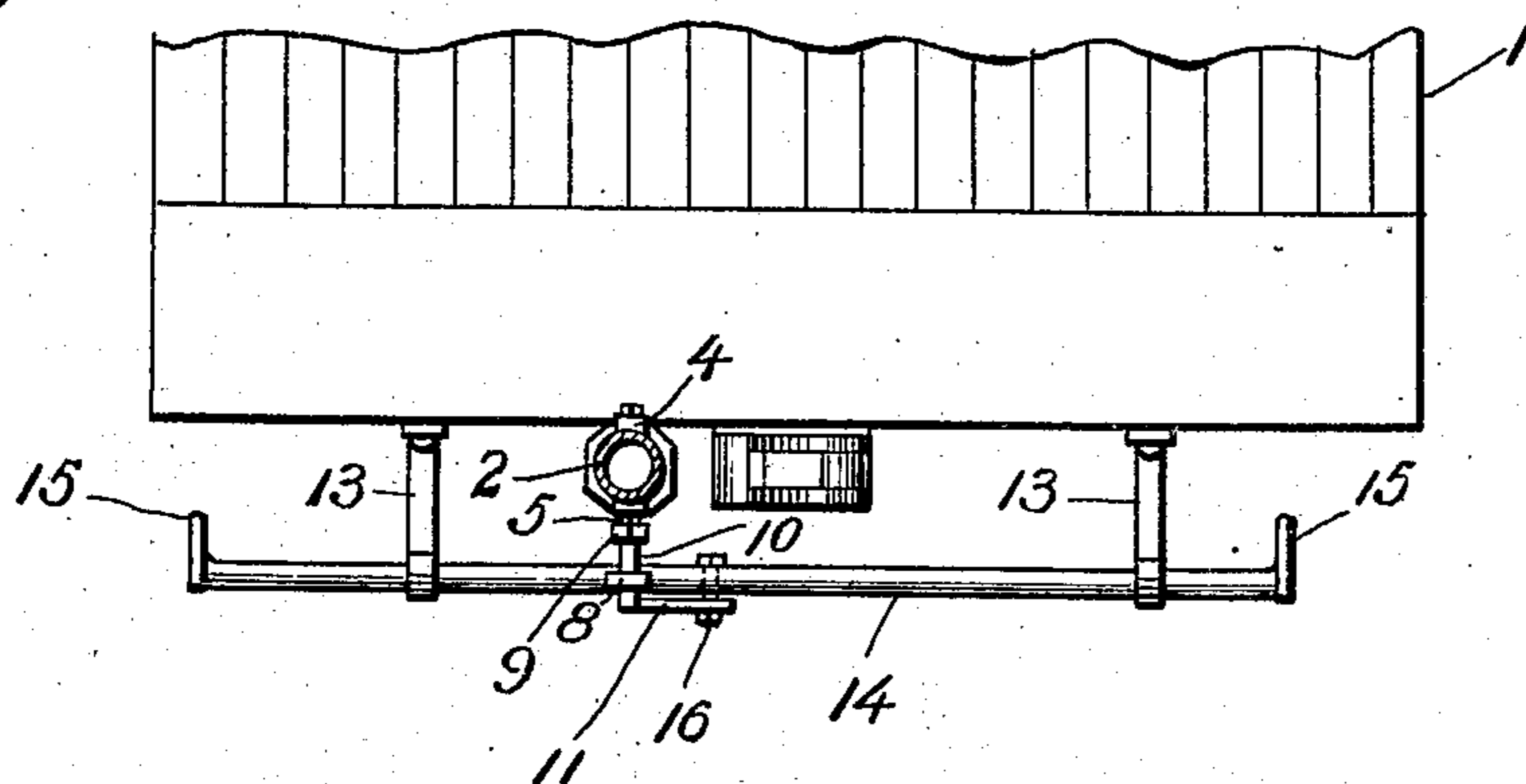


Fig. 2.



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2 SHEETS—SHEET 2.

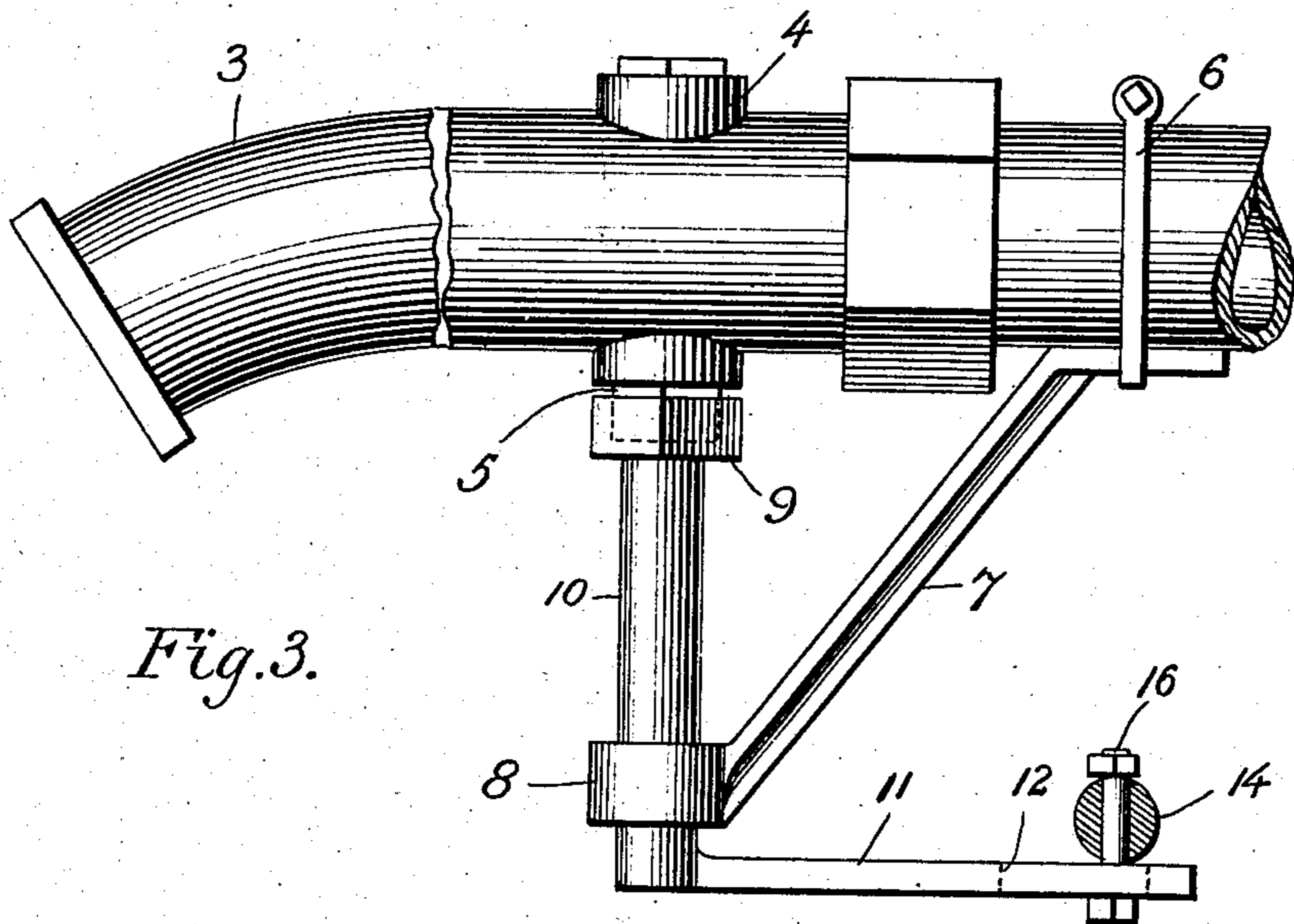


Fig. 3.

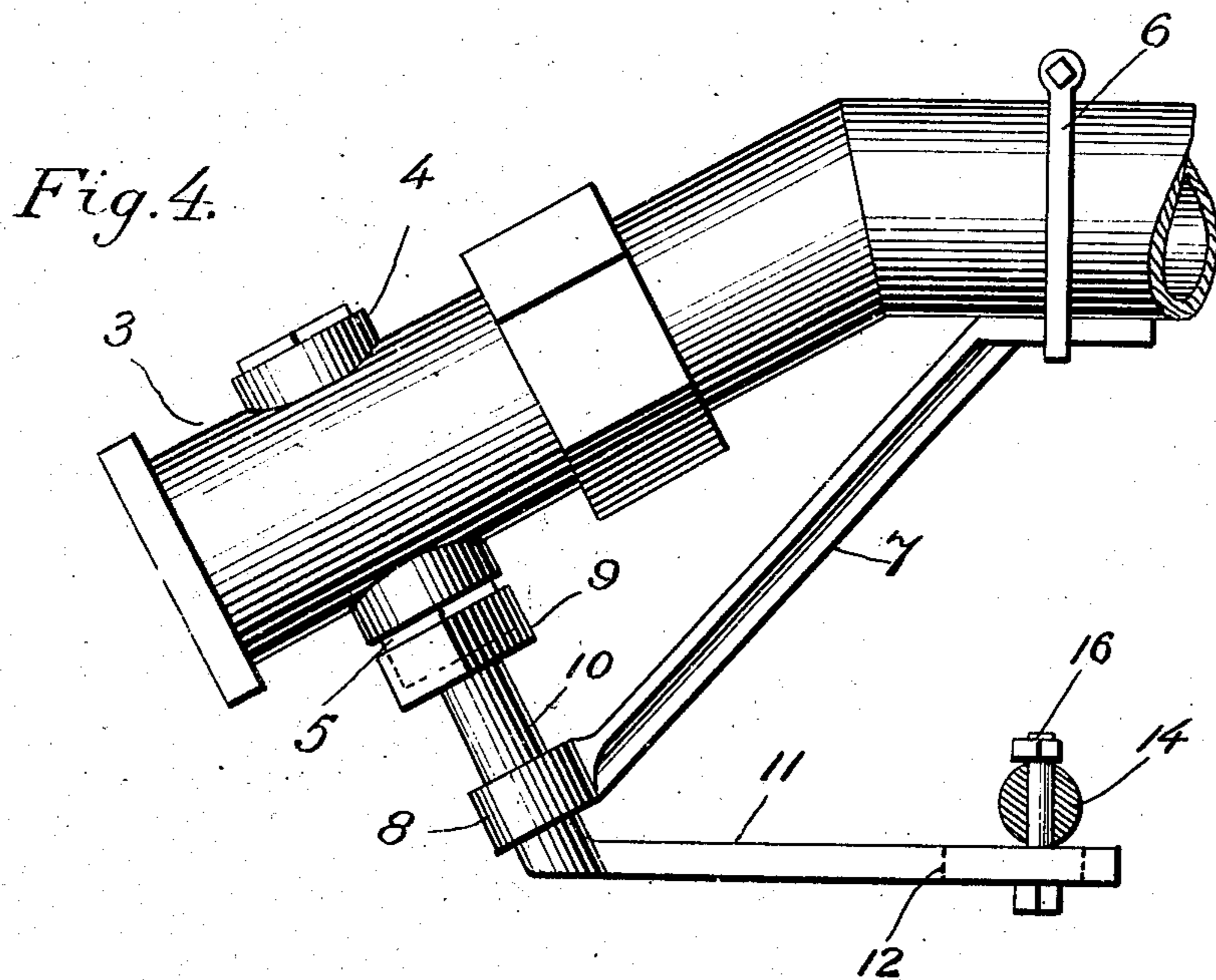


Fig. 4.

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# UNITED STATES PATENT OFFICE.

WILLIAM T. CRUMPLER AND JOSEPH L. CRISLER, OF PITTSBURG, KANSAS.

## AIR-BRAKE SYSTEM.

No. 894,608.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed January 9, 1908. Serial No. 409,972.

*To all whom it may concern:*

Be it known that we, WILLIAM T. CRUMPLER and JOSEPH L. CRISLER, citizens of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented certain new and useful Improvements in Air-Brake Systems; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to airbrake systems, being directed especially to means for operating the cut-off valves within the train line; and has for its objects to provide a comparatively simple and inexpensive device of this character which may be readily installed for use, and one in the operation of which the valves may be conveniently moved to position, and this without necessitating the entrance of the attendant between the cars.

With these and other objects in view, the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings,—Figure 1 is a reverse plan view of a portion of a car showing the train line equipped with a valve-operating mechanism embodying the invention; Fig. 2 is an end elevation of the same; Fig. 3 is a view in side elevation on an enlarged scale of the valve and attendant parts; Fig. 4 is a similar view showing a slightly modified form of valve.

Referring to the drawings, 1 designates a car having a train line pipe 2, terminating in a coupling nozzle 3 containing a valve chamber 4, in which is arranged a rotary cut-off valve provided with a projecting hub 5. These parts, except in the particulars hereinafter explained, may all be of the usual construction and material and are adapted to perform their ordinary functions.

Secured to the pipe 2, preferably by means of a clamp 6, is a downwardly and forwardly inclined brace 7, terminated at its outer end in a bearing 8, disposed in axial alinement with the hub 5, which in accordance with the invention is of square or other non-circular form in cross section to fit a correspondingly shaped socket, formed on the engaging portion or head 9 of a stem 10 journaled for rotation in the bearing 8 and having a right angularly disposed inwardly projecting arm 11 provided at its outer end with a bearing opening 12.

Sustained for longitudinally sliding movement in suitable bearings 13, attached to the bottom of the car 1 is a transversely extending operating member or rod 14, provided at its ends with end pieces 15 and to which rod the arm 11 is pivoted by means of a pintle or bolt 16, entered through the perforation 12.

In the operation of the device the operating rod 14 may, by grasping one of the end pieces 15, be moved longitudinally back and forth, and is susceptible of manipulation from either side of the car, and this without passing between the cars. When the rod 14 is moved in one direction the stem 10 will, owing to the engagement of the arm 11 with the rod, be rotated in one direction for opening the valve, while a reverse movement of the rod will obviously close the valve. In this connection it is to be observed that the stem 10 is detachably engaged with the valve through the medium of the socketed head 9 and hub 5, and that in consequence the stem may be removed when circumstances require, and an ordinary wrench employed for operating the valve, or, in other words, that a wrench of ordinary form may be utilized in the event of the operating mechanism becoming broken or otherwise damaged.

In Fig. 4 there is illustrated a slightly modified form of the device wherein an operating nozzle 3 is disposed at an obtuse angle to the train line 2, while the stem 10 and its arm 11 are arranged relatively at a corresponding angle, thus to adapt the stem for proper alinement with the axial center of the valve and at the same time dispose the arm in a horizontal position; this arrangement being desirable in some instances in order to properly provide for the accommodation of the connecting rods and the proper angular positioning of the hose. When this form of the device is used the operating rod 14 is mounted to swing in a vertical as well as longitudinal plane when shifted into either of its two positions.

It is to be understood that while the parts are shown therein as arranged with the stem 10 disposed beneath the valve the latter may be reversed should circumstances require, and the stem arranged above the same, or, in fact, the nozzle 3 may be so positioned as to have the stem 10 arranged in a horizontal plane, in which case the operating rod 14 would be journaled for rotation and connected to the arm 11 by means of an eccentric.

We claim as our invention:

1. In an airbrake system, an air pipe, a rotary cut-off valve arranged therein and having a stem provided with an angularly disposed arm, a transversely extending movable operating rod connected with said arm said rod being operable for actuating the stem to open or close the valve.
2. In an airbrake system, a train line pipe, a rotary cut-off valve arranged therein and having a non-circular hub, a rotary stem having a socketed head to receive the hub and provided with an angularly disposed arm formed near its outer end with a longitudinally extending slot and a movable operating rod connected with the slotted portion of said arm and operating through the stem to actuate the valve.
3. In an airbrake system, a train line pipe,

a rotary cut-off valve arranged therein and having a hub, a brace attached to the pipe and provided with a bearing in axial alignment with said hub, a stem journaled in the bearing and having a socketed head to receive the hub, and an angularly disposed arm formed with a longitudinally slotted portion and a transversely extending movable operating rod connected with the slotted portion of said arm.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WM. T. CRUMPLER.  
JOSEPH L. CRISLER.

Witnesses:

CHAS. P. HANGER,  
AMOS H. BELSLEY.