

No. 881,796.

PATENTED MAR. 10, 1908.

G. P. HANKS.

AIR BRAKE ATTACHMENT AND TRIPPING MECHANISM THEREFOR.

APPLICATION FILED SEPT. 12, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

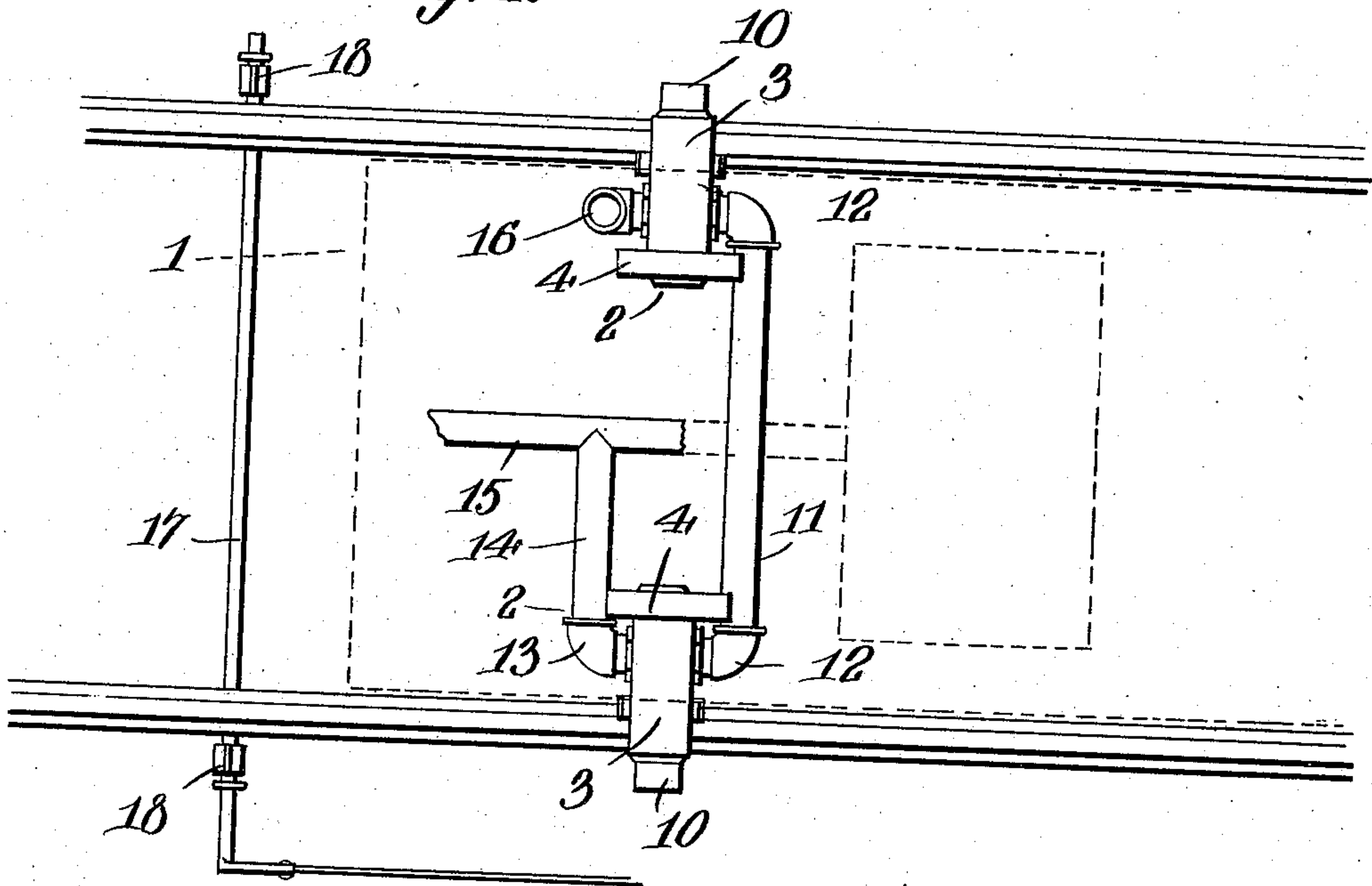
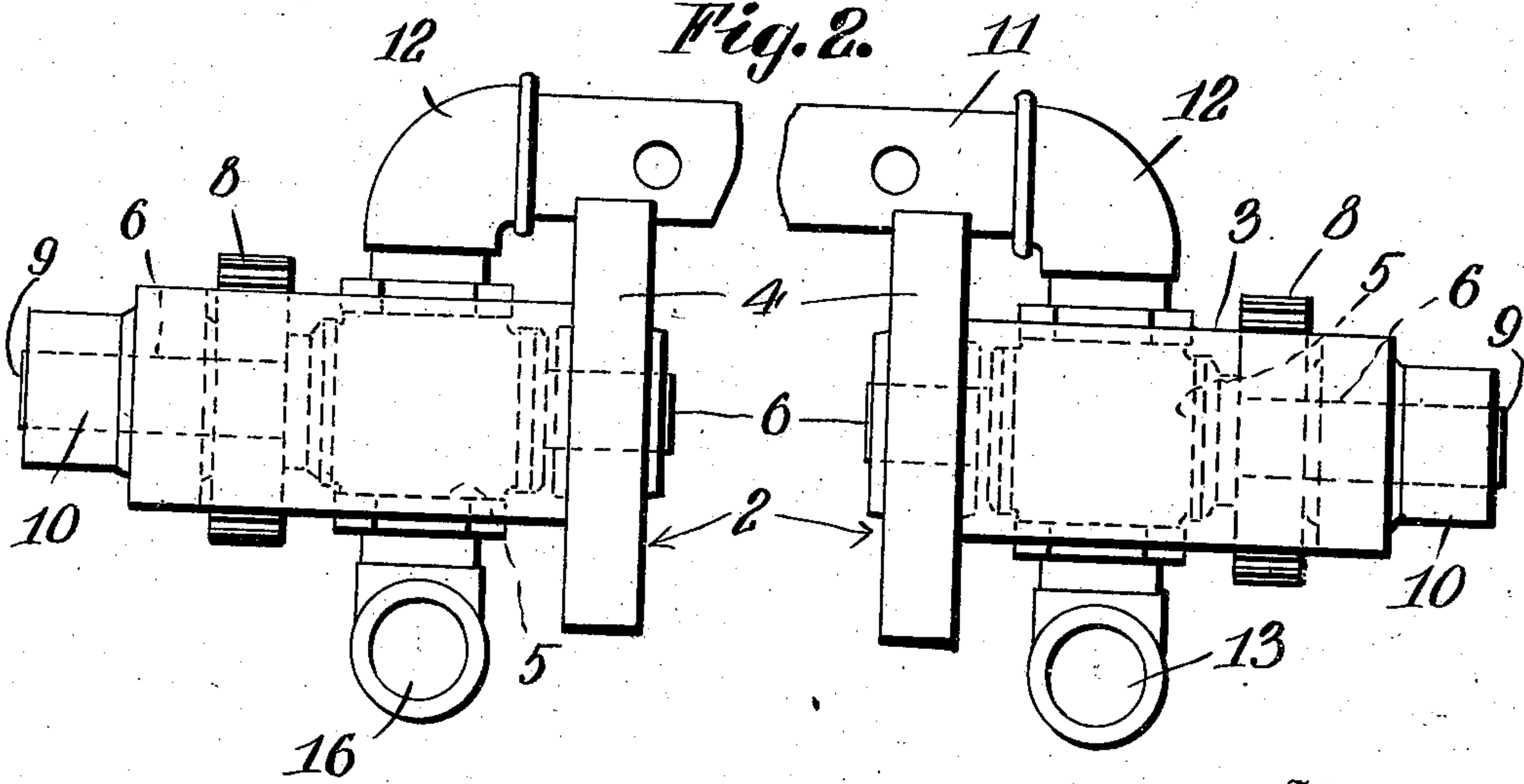


Fig. 2.



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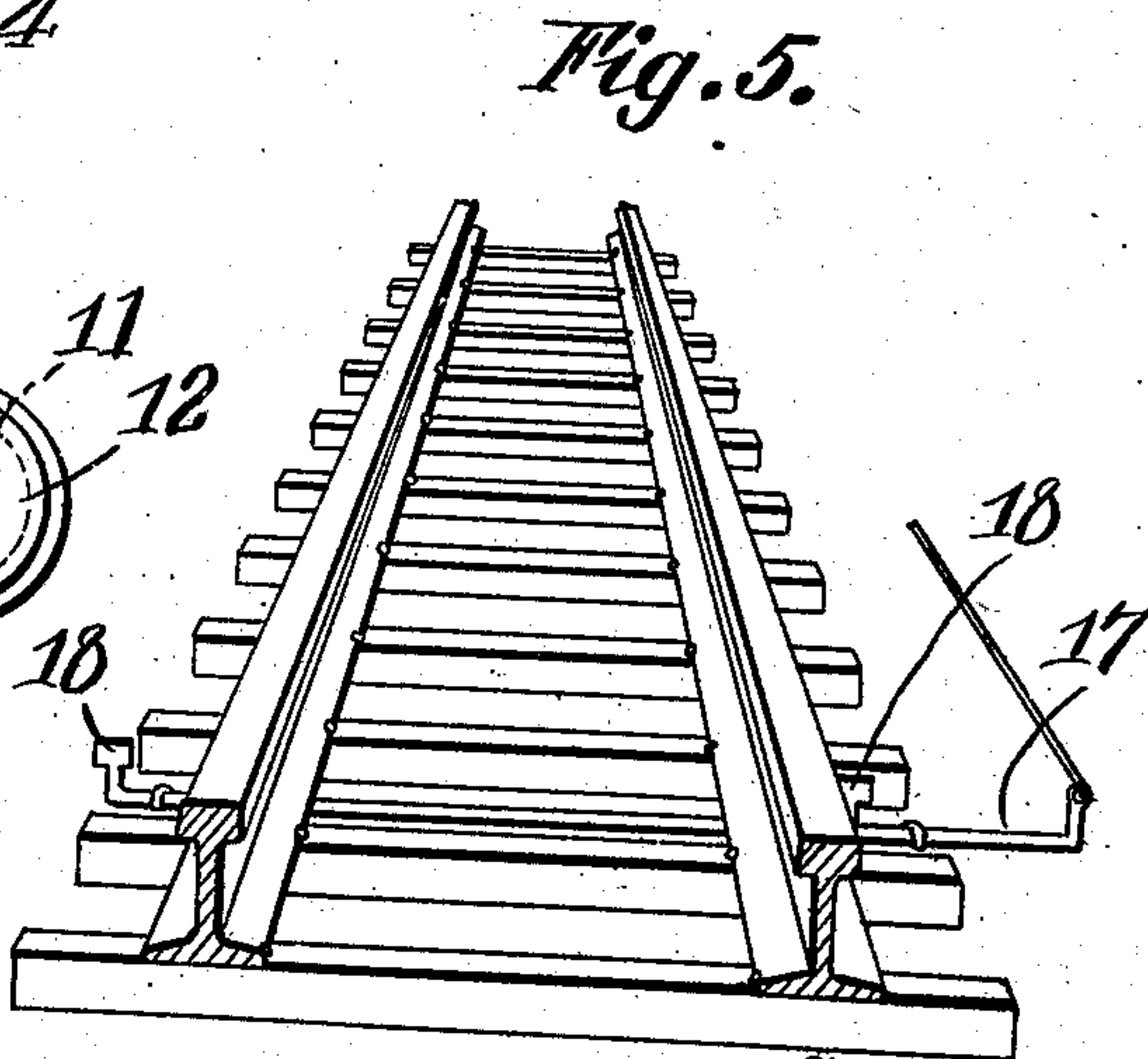
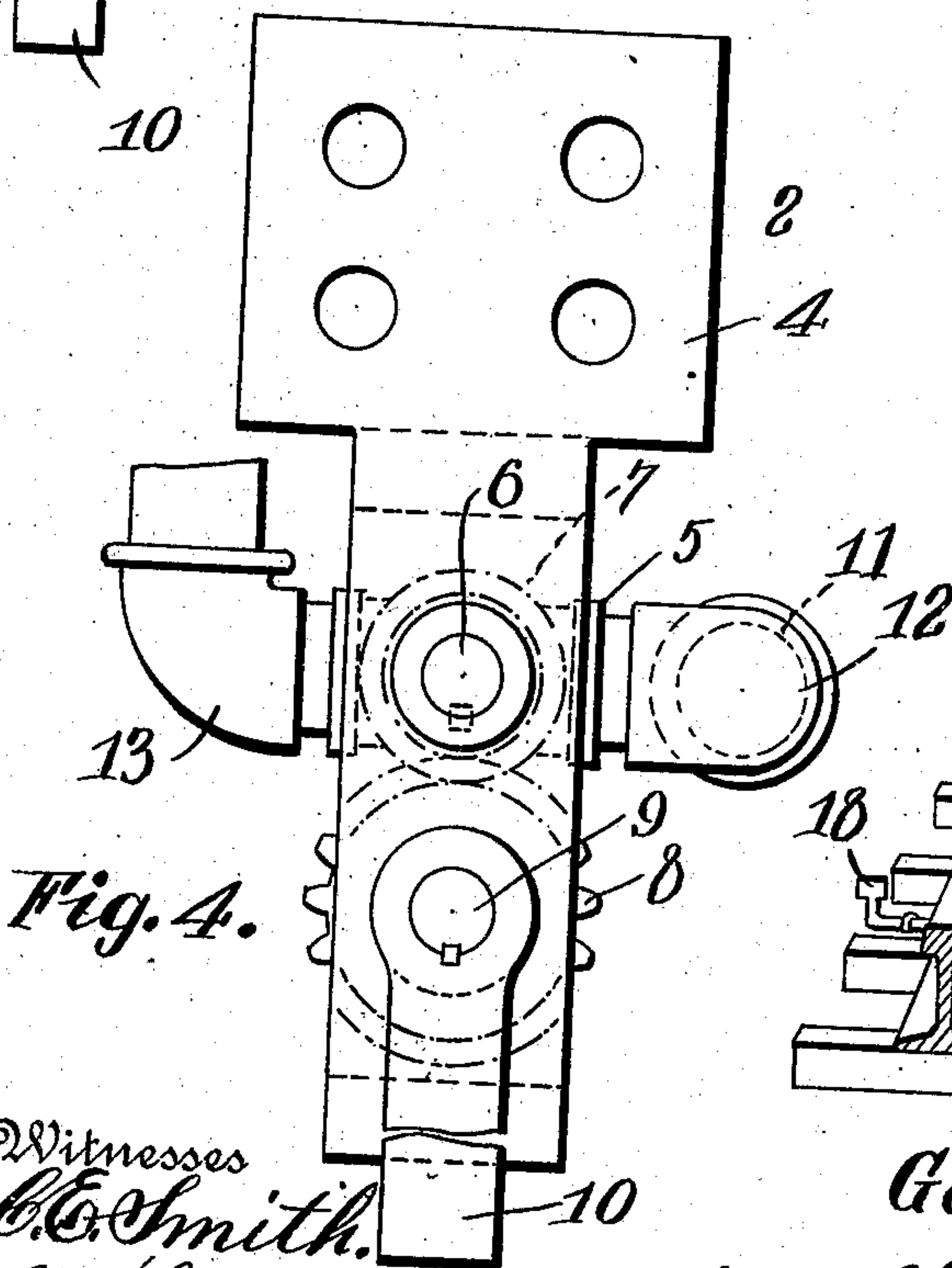
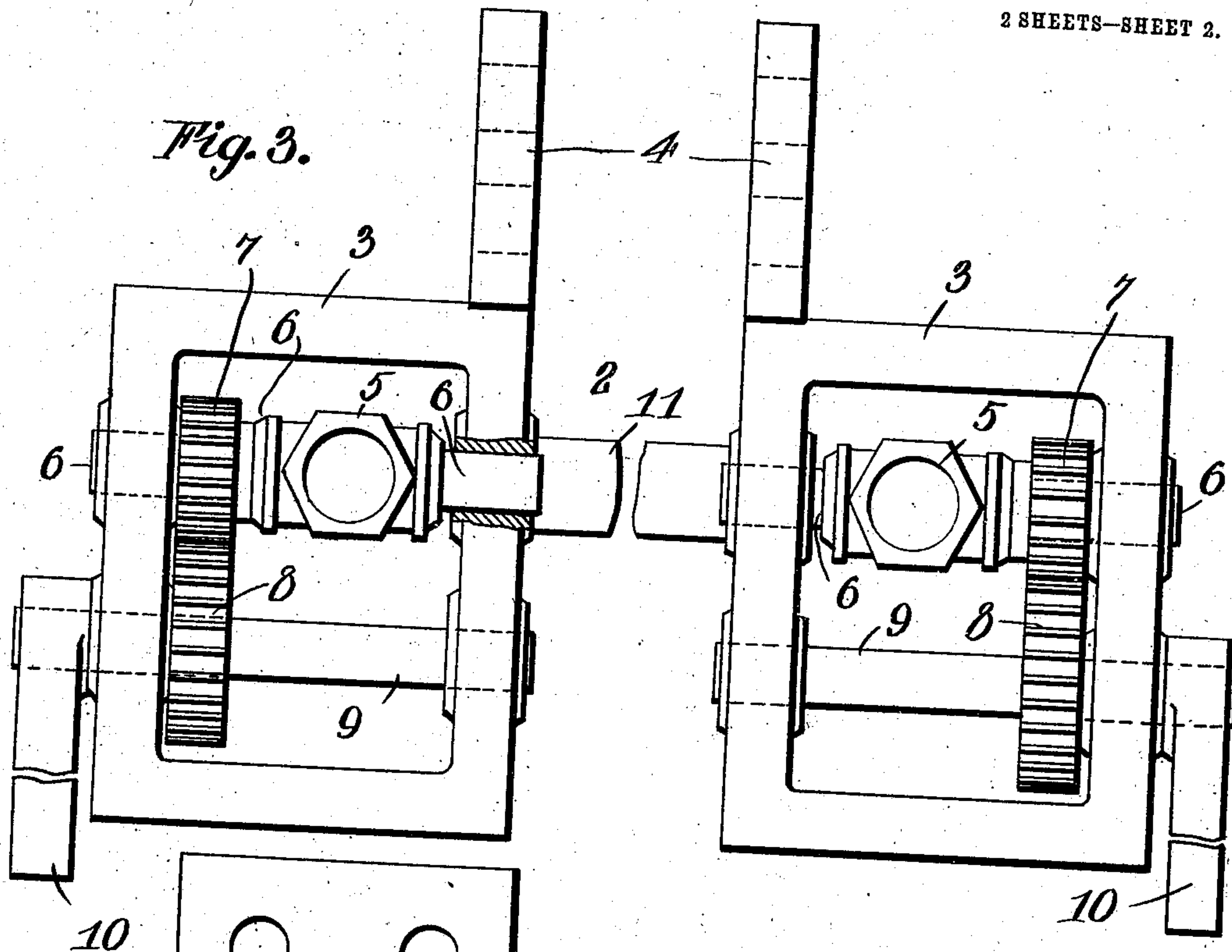
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UNITED STATES PATENT OFFICE.

GEORGE P. HANKS, OF WILKES-BARRE, PENNSYLVANIA.

AIR-BRAKE ATTACHMENT AND TRIPPING MECHANISM THEREFOR.

No. 881,796.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed September 12, 1907. Serial No. 392,543.

To all whom it may concern:

Be it known that I, GEORGE P. HANKS, a citizen of the United States, residing at Wilkes-Barre, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Air-Brake Attachments and Tripping Mechanism Therefor; and I 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 has relation to new and useful improvements in air brake attachments of that class in which a reduction of pressure in the so-called "brake" pipe results in the application of the brake.

The principal object of the invention is the production of a safety attachment of this character adapted to be readily and easily applied in position, adapted to be operated by tripping mechanism arranged along the track and set by the danger signal, whereby when the attachment is actuated or operated a reduction of pressure in the brake pipe is secured, and results in the application of the brake, causing the train to be brought to a stand.

In the accompanying drawings,—Figure 1 is a bottom plan view of a section of a locomotive with the invention applied in position; Fig. 2 is a plan view of the invention detached from position; Fig. 3 is a rear side elevation with parts broken away to more advantageously illustrate the invention; Fig. 4 is an end elevation of the invention; and Fig. 5 an enlarged detail perspective view of the trip mechanism applied in position.

In the embodiment illustrated, which is for illustrative purposes only, and, therefore, are not drawn to any particular scale, 1 indicates the locomotive and 2 the air brake attachment applied in operative position thereto. This attachment comprises two vertically disposed supporting frames 3, of preferably rectangular form, provided each at its upper inner corner with an apertured fastening plate or member 4, whereby the supporting frames may be readily and easily applied in position. These frames are arranged immediately opposite each other in the application of the invention.

A horizontally disposed stop-cock or valve 5, provided at its ends with journals or laterally projecting extensions 6 is arranged in each of the frames near its upper end, the

journals being received by the side pieces thereof. Fixed to the outermost journal of each of the stop-cocks or valves 5 is a gear wheel 7, adapted to intermesh with a gear wheel 6, of preferably larger dimension fixed to an axle 9, arranged in each of the frames under the stop cocks or valves. The outer ends of said axles 9 project or extend a suitable distance from the outer side pieces of the supporting frames, and have fixed to their projecting portions the upper ends of vertically disposed operating levers 10, the lower ends of which extend to within a suitable distance of the rails.

A laterally disposed pressure pipe 11 is arranged in front of the supporting frames and communicates with the front ends of the stop-cocks or valves, through the medium of elbows 12. An elbow 13, communicates with and is arranged to depend from the rear end of one of the stop-cocks or valves, and in the application of the invention, is attached to a branch pipe 14, extending from the train or brake pipe 15. The rear end of the other stop-cock or valve is provided with a depending elbow 16, which constitutes an exhaust for said cock or valve. A rock shaft 17, having an upwardly extending trip arm 18, near each rail, is arranged transversely of the track and is adapted to be set by the danger signal, which is of well-known construction, and need not be described.

In the application of the invention the tripping mechanism having been set by the danger signal, the free ends of the operating levers 10 engage the upper ends of the trip arm 18, which effect a partial rotation of the shafts or axles 9, and through the medium of the gear wheels 7, open the stop valves or cocks 5 and permit the steam or air in the brake pipe to escape through the valves and out of the exhaust 16, which results in an immediate application of the brakes, whereby the train is brought to a stand.

From the embodiment illustrated and defined, it will be readily seen or perceived that it is absolutely necessary that both valves or cocks 5 be open to permit the air or steam to escape from the brake pipe. This is an advantage in so much as should one of the operating levers be turned by an obstruction in its path, the pressure or air from the brake pipe could not escape because of the other valve being closed. It will also be readily seen that a device constructed in the manner defined is of exceedingly simple

construction, may be easily and readily applied in operative position, and operates positively and surely without the assistance of the engineer.

5 From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

10 Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

15 Having described my invention, I claim:—

1. In a device of the character described, the combination of two upright supporting frames adapted to be applied under a locomotive, horizontally disposed stop-cocks arranged in said frames, said cocks having laterally projecting journals, gear wheels fixed to the outer ends of the journals, means for establishing communication between said cocks, gears journaled in the supporting frames to intermesh with said first mentioned gears, operating levers connected with said last mentioned gears, means for connecting one of the stop-cocks with the brake pipe of the locomotive, and tripping mechanism adapted to be arranged on the track for engaging the free ends of the operating levers.

2. In combination with a locomotive, vertically disposed supporting frames arranged under the locomotive, horizontally disposed stop-cocks arranged in the frames, operating levers pivotally sustained by the frames, the lower ends of the levers projecting below the same, means for establishing communication between the stop cocks, means for connecting one of the cocks with the train pipe of the locomotive, and tripping mechanism adapted to be arranged along the track and set by the danger signal for engaging the free ends of the operating levers, with means for open-

ing the stop cocks when the operating levers are engaged by the tripping mechanism. 15

3. In combination with a locomotive, two vertically disposed supporting frames sustained under the same, horizontally disposed stop-cocks arranged in the frames, said cocks having laterally projecting journals adapted to be received by the frame, a gear wheel fixed to one of the journals of each of the stop cocks, tripping mechanism adapted to be set by the danger signal arranged along the track, and means sustained or carried by the frames and coacting with said gears for opening the stop-cocks, said means being operated by the tripping mechanism, with means for connecting one of the stop-cocks with the train pipe of the locomotive. 60

4. In combination with a locomotive, supporting frames sustained under the same, horizontally disposed stop-cocks sustained by the frames, said cocks having journals at their ends, a gear fixed to one of the journals of each of the stop-cocks, means for establishing communication between the stop-cocks, axles journaled in the frames under the stop-cocks, gears fixed to said axles in position to intermesh with said first-mentioned gears, operating levers fixed to the outer ends of the axle, the free ends of said levers projecting below the supporting frames, means for connecting one of the stop-cocks with the brake pipe of the locomotive, and tripping mechanism arranged along the track and adapted to be set by the danger signal for engaging the free ends of the operating levers. 80

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE P. HANKS.

Witnesses:

M. J. MULVEY,
JOHN FLYNN.