

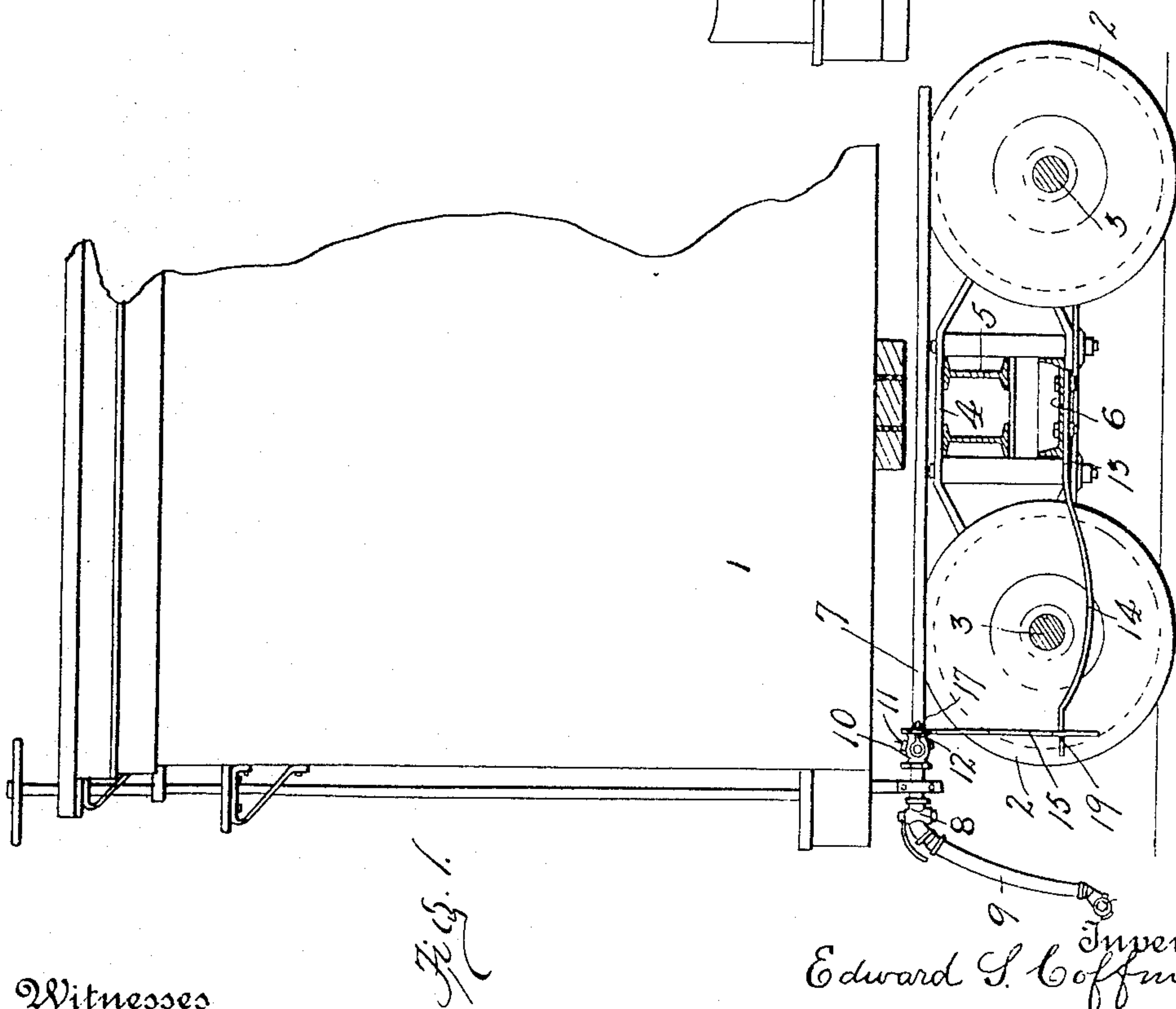
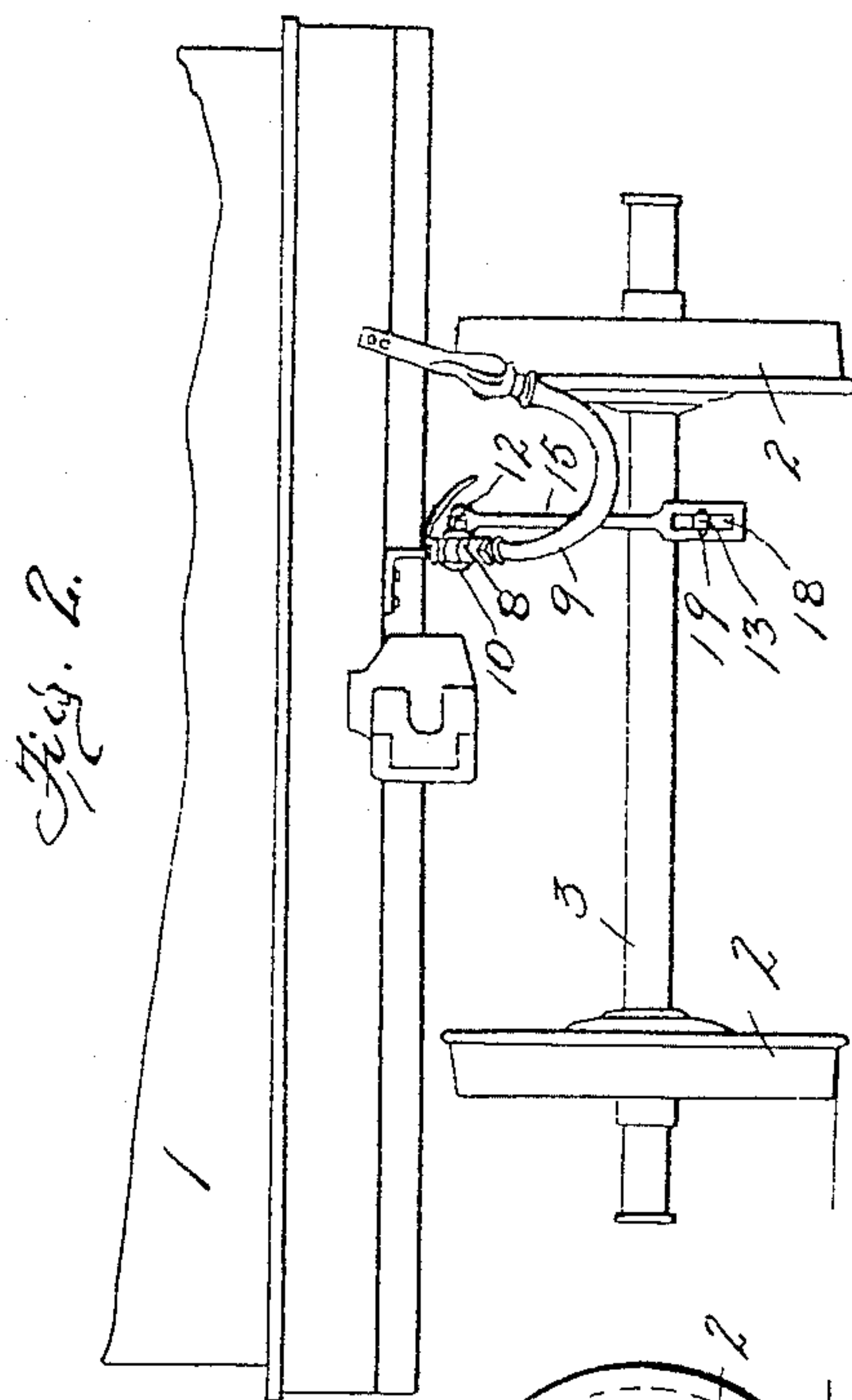
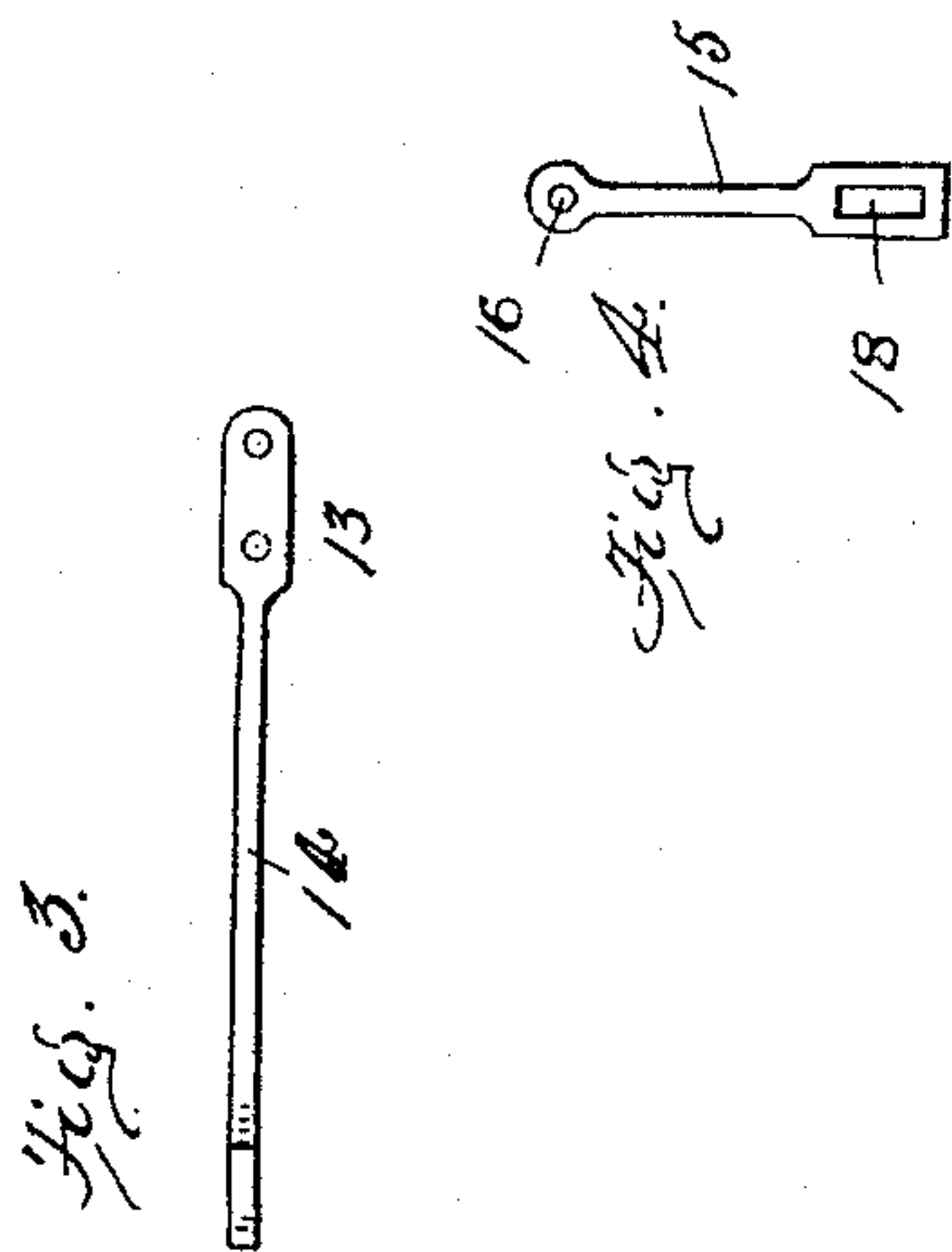
No. 785,153.

PATENTED MAR. 21, 1905.

E. S. COFFMAN.

MEANS FOR AUTOMATICALLY APPLYING AIR BRAKES IN DERAILMENTS.

APPLICATION FILED NOV. 15, 1904.



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EDWARD S. COFFMAN, OF CLIFTONFORGE, VIRGINIA.

MEANS FOR AUTOMATICALLY APPLYING AIR-BRAKES IN DERAILMENTS.

SPECIFICATION forming part of Letters Patent No. 785,153, dated March 21, 1905.

Application filed November 15, 1904. Serial No. 232,865.

To all whom it may concern:

Be it known that I, EDWARD S. COFFMAN, a citizen of the United States, residing at Cliftonforge, in the county of Alleghany and State of Virginia, have invented new and useful Improvements in Means for Automatically Applying Air-Brakes in Derailments, of which the following is a specification.

The object of my invention is the provision of means, in connection with the trucks of locomotives, tenders, and cars, whereby when a truck becomes derailed the air-brakes shall immediately be applied throughout the train, said means to be simple in construction, cheap in first cost and maintenance, easily applied to trucks now in use, not liable to become inoperative or to be brought into operation in normal service, and which shall constitute a superior instrumentality for the purpose intended.

With the above-mentioned end in view my invention consists in certain novelties of construction and combination of parts hereinafter set forth and claimed.

The accompanying drawings illustrate an example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principle.

Figure 1 shows the end of a box-car, a truck in longitudinal section, and an air-brake train-pipe with my improvements applied. Fig. 2 is a partial end view of Fig. 1, showing the location of my device relative to the truck and train-pipe. Fig. 3 is a plan view of the operating bar or rod. Fig. 4 shows in plan view the bar which directly engages the handle of the air-discharge valve.

Referring to the several figures, the numeral 1 designates the car-body; 2, the truck-wheels; 3, the axles; 4, the truck-frame, which may be of any type; 5, the truck-bolster; 6, the spring-plank, rigidly secured to the frame and constituting a part thereof; 7, the train-pipe, which is of usual construction; 8, an angle-cock; 9, the hose-coupling; 10, in this instance an air-discharge valve of any approved form; 11, a passage for the escape of air from the train-pipe when the valve is opened; 12, a handle for operating the plug of the valve, which

plug is disposed in a horizontal plane with the handle at the side of the pipe; 13, an operating bar or rod bolted at one end to the spring-plank of the truck; 14, the curved portion of the bar; 15, the bar which is suspended from the handle of the valve; 16, a hole at one end which passes over the handle of the valve; 17, a cotter passed through a hole in the handle and which retains the bar in place; 18, an elongated slot in the opposite end of the bar, and 19 is a cotter passed through a hole in the end of the operating-bar.

The end of the operating-bar loosely engages the perpendicular bar, and the latter loosely engages the handle of the valve, so that when the truck takes a position oblique to the car-body on curves the lower end of the perpendicular bar can move sidewise. The elongated slot in the end of the perpendicular bar allows a limited movement of the car-body upon the springs and the horizontal movement of the operating-bar without bringing the device into operation, as is obvious from an inspection of the drawings.

The mode of operation is as follows: Should a pair of wheels leave the track, the frame of the truck will also drop and carry with it the operating-bar, the end of the latter pulling down the perpendicular bar, which in turn will depress the handle of the valve and open up communication from the train-pipe to the atmosphere, allowing the air under compression in the pipe to escape, and thus applying the brakes throughout the train.

In the practical application of my improvement modifications and changes may of course be introduced. The angle-cock and release-valve may be cast in one piece, the operating-bar be secured to any desired part of the truck-frame, and the end of the bar be located above the axle instead of below it and the bar 15 be made in two pieces and adjustably united by bolts. All such and analogous alterations, changes, and substitutions of equivalents will not be regarded as substantial departures.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the train-pipe having a valve with a handle, of a bar loosely en-

gaging the handle and having a rotary motion about the same as a center; and an operating bar or rod secured at one end to the truck-frame and at the other end loosely engaging the bar which is secured to the handle of the valve.

2. The combination with the train-pipe having a valve with a handle located at the side of the pipe, of a bar suspended from the handle; and an operating-bar rigidly secured at one end to the truck-frame and at the other end loosely engaging the bar which is suspended from the handle of the valve.

3. The combination with the train-pipe provided with a valve having a handle, of a bar secured at one end to the handle, the opposite end of the said bar being slotted; and an operating-bar secured at one end to the truck-frame and the free end thereof located within the slot of the first-mentioned bar.

4. The combination with a train-pipe having a valve with a handle, of an operating-bar rigidly secured at one end to the truck-frame

between the pairs of wheels; and means interposed between and loosely uniting the handle and the end of the operating-bar, said means being movable relative to both the handle and the bar, so that the truck may swivel and move the operating-bar in a horizontal plane for a limited distance without rotating the valve-handle.

5. The combination with a train-pipe having a valve with a handle for operating a valve-plug, of an operating-bar secured at one end to the spring-plank of a truck-frame and between the pairs of wheels; and means yieldingly connecting the valve-handle and the free end of the operating-bar, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD S. COFFMAN.

Witnesses:

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R. D. NUCKOLS.

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