F. L. BARBER & E. W. WEBB.

ADJUSTABLE BRAKE STAFF.

APPLICATION FILED OCT. 2, 1914.

1,130,955.

Patented Mar. 9, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

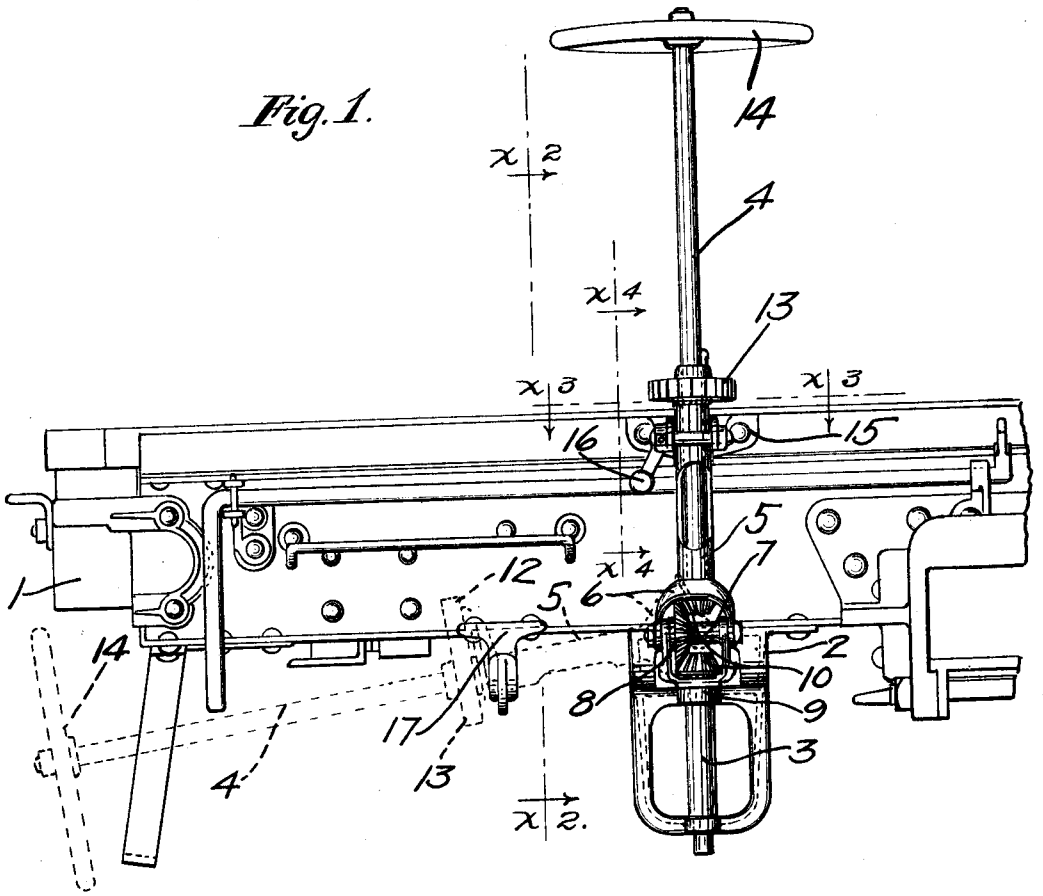
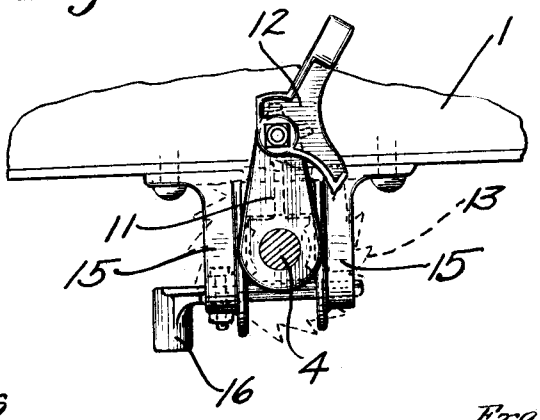


Fig. 3.



Witnesses
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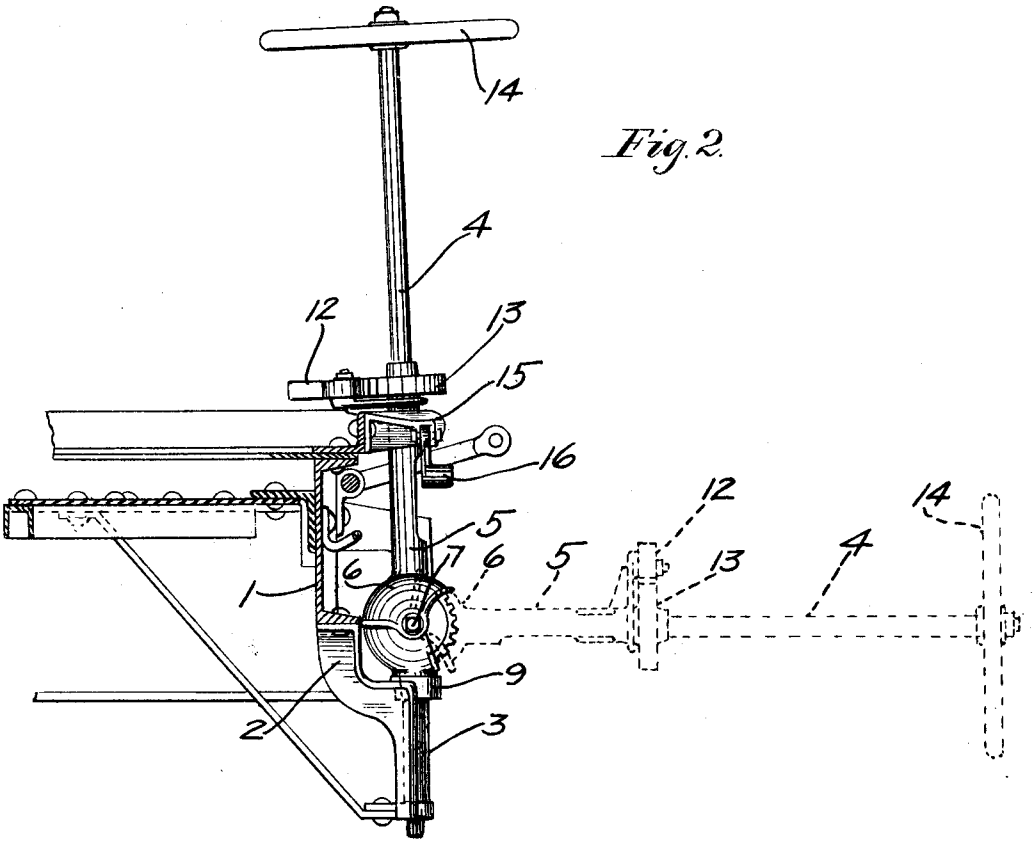
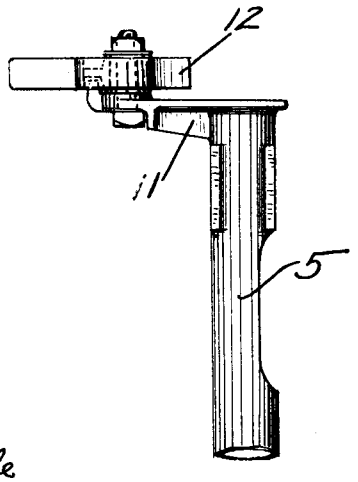


Fig. 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANKLIN L. BARBER AND EDWIN W. WEBB, OF CHICAGO, ILLINOIS, ASSIGNORS TO STANDARD CAR TRUCK COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

ADJUSTABLE BRAKE-STAFF.

1,130,955. Specification of Letters Patent. Patented Mar. 9, 1915.

Application filed October 2, 1914. Serial No. 864.597.

To all whom it may concern:

Be it known that we, FRANKLIN L. BARBER and EDWIN W. WEBB, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adjustable Brake-Staffs; and we do hereby 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.

Our invention relates to brake mechanism for railway cars, and is directed to the improvement of that type of brake staff which is capable of movement from upright into down-turned or horizontal positions, and, hence, is especially adapted for use in connection with flat cars. The various reasons why these adjustable brake staffs are desirable in connection with freight cars are now very well understood by all persons familiar with railway service.

An adjustable brake staff of the general type to which this invention relates is disclosed and claimed in our prior Patent 1,003,168. In our said prior patent, and, in fact, in prior patents disclosing adjustable brake staffs, it has been the common practice to make the whole brake staff, including the windlass, movable as an entirety, from upright into downturned position, and conversely. Our present invention, however, makes a radical departure from the above noted construction, in that the brake windlass maintains a constant location, while the brake staff is arranged to be moved from an upright into a horizontal or downturned position, and vice-versa, but in all positions is operatively connected to the said windlass.

The preferred arrangement of our improved brake staff is shown in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings: Figure 1 is a view showing the body of a flat car in end elevation, and illustrating our improved brake staff applied thereto, some parts being broken away; Fig. 2 is a vertical section taken on the line x^2 x^2 on Fig. 1, some parts being broken away; Fig. 3 is a detail in horizontal section on the line x^3 x^3 on Fig. 1; and Fig. 4 is a detail showing the brake staff and a portion of its supporting casing, some parts being broken away.

The body of the flat car is indicated by the numeral 1. Depending from, and rigidly secured to each end of the car body 1, at the transverse center thereof, is a strong bracket 2, which affords a bearing and support for the brake chain windlass 3.

The brake staff 4, when in an upright position, is axially alined with the windlass 3. It is journaled in a sleeve-like supporting casing 5, that has a pronged lower end 6 pivotally connected by a coupling bolt 7 to the prongs of a head 8, which latter has a depending hub 9 that surrounds the upper portion of the windlass 3 and is journaled in a lug on the windlass-supporting bracket 2, so that it is mounted for a swivel movement around the axis of the said windlass. The brake staff 4 is operatively connected to the windlass 3 through a nest of three beveled gears 10 secured, one to the lower end of said brake staff, one to the upper end of the windlass, and the other loosely journaled on the hinge bolt 7. The casing 5, at its upper end, has an off-set arm 11, on which a lock dog 12 is pivotally mounted; and for engagement with the said dog 12, the brake staff 4 is provided with a ratchet wheel 13. On its upper end, the brake staff is provided with the usual operating wheel 14.

When the brake staff is in an upright position, the upper end portion of its casing 6 lies between the prongs of a keeper bracket 15, rigidly secured to the adjacent ends of the car body 1. A gravity-held lock piece 16, pivoted to one of the prongs of said bracket 15, and engageable with a notch in the other prong thereof, normally holds the said casing 5 and brake staff in their operative upright positions. When the brake staff is in its upright position, rotation thereof will, through the gears 10, also rotate the windlass 3. When the lock 16 is moved into an inoperative position, the brake staff and upper end of the casing 5 may be moved pivotally on the hinge bolt 7, so as to clear the said casing from the prongs of the bracket 15. The casing 5 and staff 4, being then turned downward at an angle, may be used as a lever to oscillate it on the hub 9 of the head 8, around the axis of the windlass 7, through an arc of ninety degrees, so as to carry the said casing with the brake staff

into an approximately horizontal position, parallel to the adjacent end of the car and in position to have the free end of the said casing 5 lodged in a hook-like rest bracket 17, rigidly secured to the adjacent end of the car body. The downturned position of the brake staff and its casing 5 is indicated by dotted lines in Fig. 1, and it is evident that in this down-turned, or approximately horizontal position of the brake staff, rotation thereof will, through the gears 10, rotate the windlass 3. The brake staff, therefore, in all positions, is operative on the windlass, and the windlass is never moved from its predetermined local position, but is given only its rotary movement on its own axis. Also, since the pawl and ratchet device 12—13 is carried by the casing 5, it follows that the brake staff may be moved from its one position to another, either while the brakes are set, or while the brakes are released.

The feature of leaving the windlass or chain-winding end of the brake staff in a predetermined local position, unaffected by movements of the brake staff from upright into horizontal positions, is highly important, and is believed to be broadly new.

What we claim is:

1. A car brake staff having a relatively local windlass, and provided with a hinge joint adapting its main body portion to be moved pivotally from an upright into a down-turned position, and the said brake staff also having means rendering the same operative on said windlass in both of its said positions.

2. In a car brake mechanism, the combination with a relatively local brake windlass, of a brake staff connected to said windlass by a hinge joint adapting it to be moved from an upright into a down-turned position, and a drive operatively connecting said brake staff to said windlass in both of said positions.

3. The combination with a car body, of a brake mechanism comprising a windlass support secured to said car body, a windlass journaled in said support, a brake staff casing journaled on said windlass and having a hinge joint adapting its body portion to be turned from an upright into a down-turned position, a brake staff journaled in the hinged portion of said support, and a gear connection between said brake staff and windlass, maintaining an operative connection between the same in the different positions of said brake staff.

4. The combination with a car body, of a brake mechanism comprising a windlass support secured to and depending from said body, a windlass journaled in said support, a brake staff casing journaled for movement around the axis of said windlass and provided with a hinge joint adapting its body portion to be turned from an upright into a down-turned position, a brake staff journaled in said casing, means for locking said staff to said casing against rotation in one direction, and a nest of three beveled gears connecting said staff to said windlass, one of the said gears being on said staff, one on said windlass, and the other journaled around the axis of said hinge joint.

5. The combination with a car body, of a brake mechanism comprising a windlass support secured to and depending from said body, a windlass journaled in said support, a brake staff casing journaled for movement around the axis of said windlass and provided with a hinge joint adapting its body portion to be turned from an upright into a down-turned position, a brake staff journaled in said casing, means for locking said staff to said casing against rotation in one direction, a nest of three beveled gears connecting said staff to said windlass, one of the said gears being on said staff, one on said windlass, and the other journaled around the axis of said hinge joint, means for securing said casing in an upright position, and means for supporting the same in a down-turned position.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANKLIN L. BARBER.
EDWIN W. WEBB.

Witnesses:
MABEL G. LAW,
ROY ANDERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."