

No. 680,768.

Patented Aug. 20, 1901.

J. K. EWART.

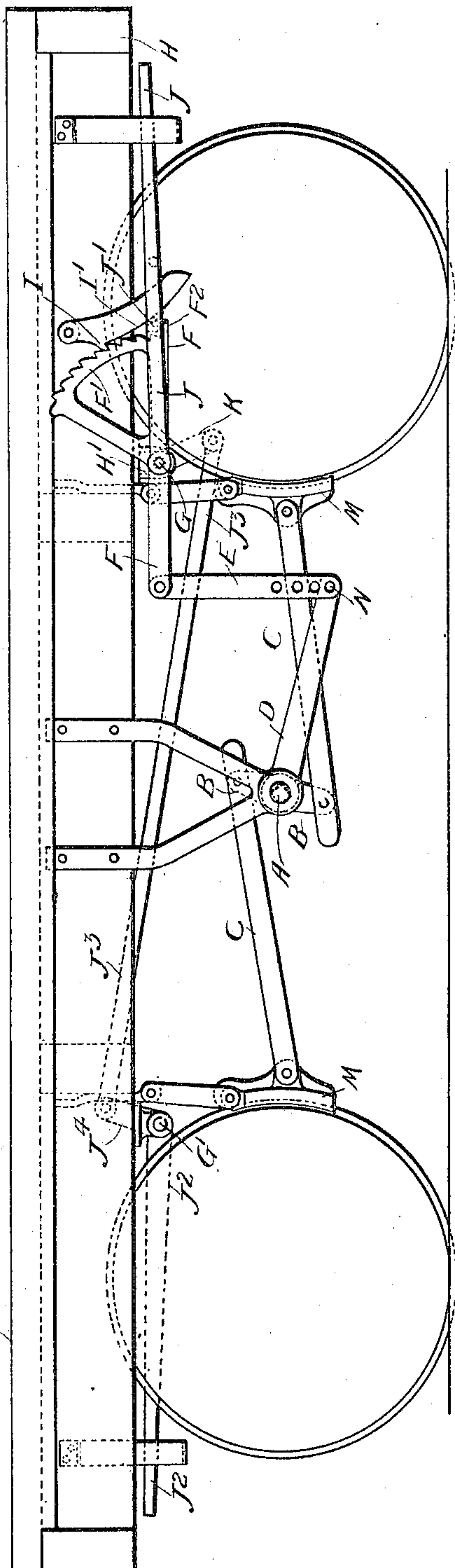
BRAKE MECHANISM FOR RAILWAY OR OTHER WAGONS.

(Application filed June 3, 1901.)

(No Model.)

2 Sheets—Sheet 1.

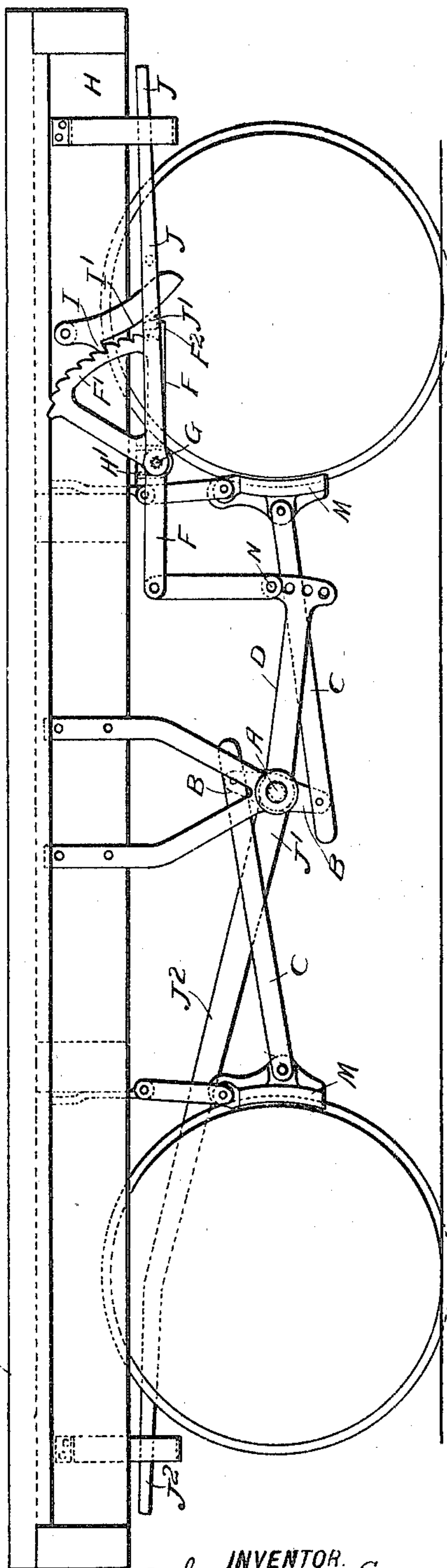
FIG. 1.



WITNESSES:

Isabella Waldron
O'Connor

FIG. 3.



INVENTOR.

John Knox Ewart
BY
Richardson
ATTORNEYS

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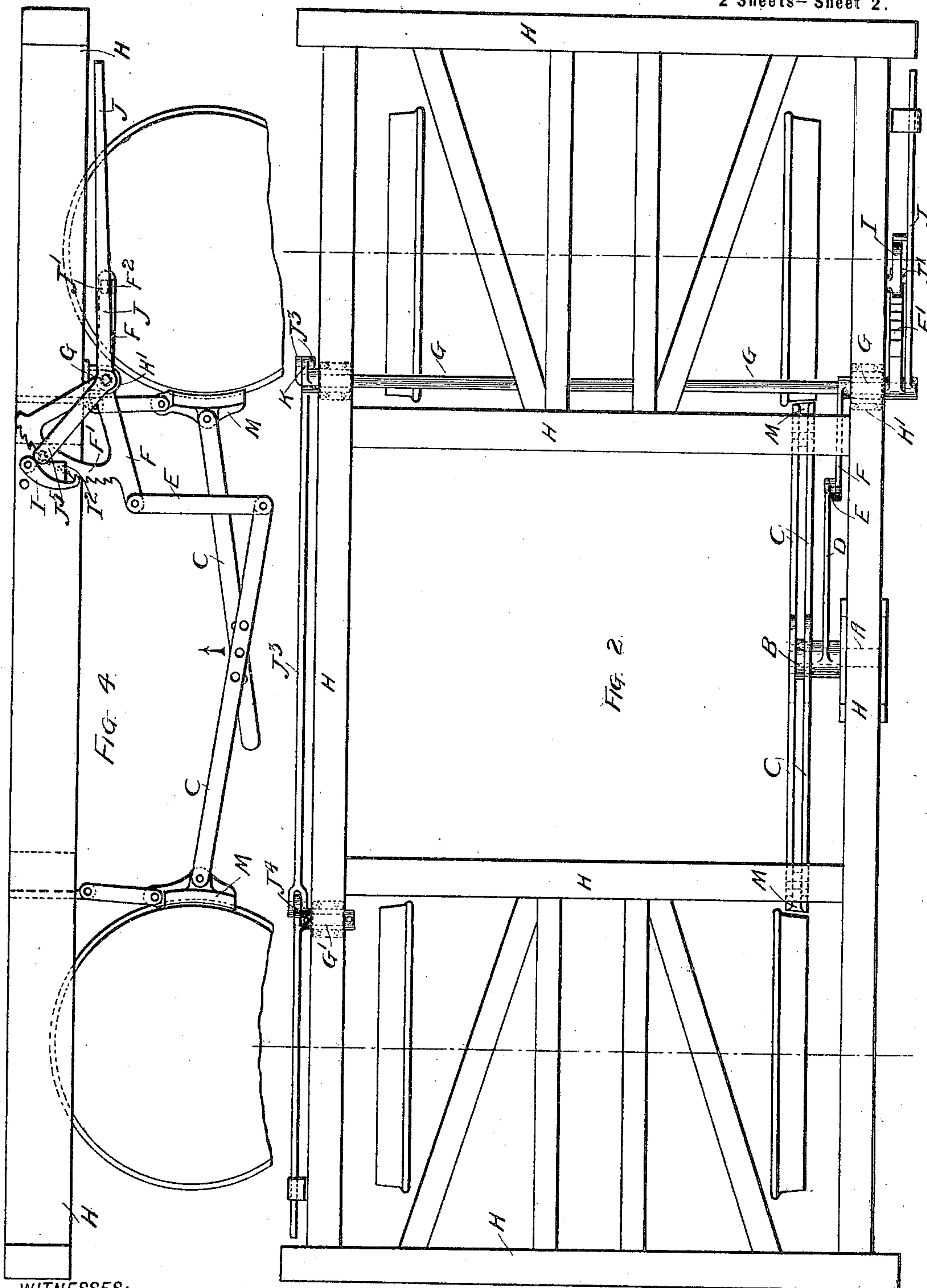
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2 Sheets—Sheet 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN KNOX EWART, OF GLASGOW, SCOTLAND.

BRAKE MECHANISM FOR RAILWAY OR OTHER WAGONS.

SPECIFICATION forming part of Letters Patent No. 680,768, dated August 20, 1901.

Application filed June 3, 1901. Serial No. 62,950. (No model.)

To all whom it may concern:

Be it known that I, JOHN KNOX EWART, a citizen of the United Kingdom of Great Britain and Ireland, residing at 141 Byars road, in the city of Glasgow, Scotland, have invented certain new and useful Improvements in or Connected with the Brake Mechanism of Railway or other Wagons, (for which application for patent has been made in Great Britain, No. 375, dated January 7, 1901,) of which the following is a specification.

This invention, which relates to the brake mechanism of railway and other wagons, has for its object to provide a locking device in conjunction with the brake-lever, whereby the brake may be automatically locked after it is applied and the locking-pawl automatically withdrawn when the lever is raised to release the brake from the wheels of the railway or other wagon, thus obviating the necessity for employing both hands of an operator for this purpose and rendering the locking on and releasing of the brake more expeditious and effective.

The invention is equally applicable to the pattern of brake mechanism at present in use upon railway-wagons and to brake mechanism of any type in which a hand-lever is operated to apply and release the brake.

The invention is illustrated by the accompanying drawings.

Figure 1 is a longitudinal elevation, and Fig. 2 a plan, of the body of a railway-wagon, showing the improved locking device applied to one of the ordinary forms of brake mechanism. Figs. 3 and 4 are longitudinal elevations, showing the locking device applied, respectively, to another common form of brake mechanism and to a specially-arranged brake mechanism.

In carrying out the invention in respect to the pattern of brake mechanism at present in use upon railway-wagons, and referring particularly to Figs. 1 and 2, instead of the usual long lever extending from the shaft A, on which the short levers B, actuating the push-rods C, of the brake are keyed, I substitute a short lever D, and connect this lever by means of a link or links E with a beam-lever F, centered loosely on a shaft G, extending transversely of and under the wagon-body H in such a position as to be clear of the open-

ing doors usually provided in the bottom of railway-wagons. The other end of this beam-lever F has a quadrant F' formed on it, having ratchet-teeth in its periphery adapted to be engaged by a pawl I, pivoted upon the wagon-body H and normally bearing against said teeth, and at the quadrant end F' of said lever a heel F² is formed, for a purpose hereinafter described. The two ends of the quadrant-lever are preferably formed at either end of a common boss, as shown particularly at Fig. 2, this boss being preferably centered in the bracket H', through which the transverse shaft G is centered. On the transverse shaft G aforementioned a hand-lever J is keyed at both sides, if desired, one of the said hand-levers having upon it a projection J', which engages with the heel F² (on the quadrant F' above referred to) when the hand-lever J is depressed in order that the brake may be applied. When the hand-lever J is depressed, the quadrant-lever F is carried with it, and the brake is applied through the intervention of said quadrant-lever, the link or links E, and the short lever D, and thereafter through the usual short levers B and push-rods C, provided in connection with the brake mechanism of the wagon, the pivoted pawl I bearing upon the teeth of the quadrant F', falling under the action of gravity or being pushed, by means of a spring or otherwise, into the notch brought opposite its engaging end when the brake is fully applied. When it is desired to release the brake, the hand-lever J is raised, turning with it the transverse shaft G, upon which it is keyed, and lifting the projection J' upon said lever J away from the heel F² upon the quadrant-lever F', centered on the same shaft G, the quadrant-lever F' being prevented from movement by the pawl engaging its ratchet-teeth. The further raising of the hand-lever J brings the projection J' upon it into contact with an inclined extension I' of the pawl I and withdraws the latter from engagement with the ratchet-teeth of the quadrant F', whereupon the quadrant-lever is freed and the brakes are brought clear of the wheels by gravity in the usual manner. Instead of, as already mentioned, providing a hand-lever on the opposite side of the wagon-body at the other end of the transverse shaft G this second

lever J^2 may, as shown at Figs. 1 and 2, be keyed to a shaft G' , situated transversely of the wagon on the opposite side of the wagon center, the said hand-lever J^2 being connected by means of a short lever J^4 on this shaft G' and a link J^3 , attached to said lever, to a short lever K on the first-mentioned transverse shaft G , so that the brake may be applied and released from either side of the wagon by means of a right-hand lever.

In order to provide for taking up wear upon the brake-shoes M , either the link or links E , connecting the quadrant-lever F with the short lever D above mentioned, or the short lever D itself may have a series of holes near its outer end, into which a removable pin N is inserted to connect the said short lever D and the links E together.

The entire mechanism shown at Fig. 3, by which the brake is applied and locked and released, is identical with that shown and described in reference to Figs. 1 and 2, excepting that the hand-lever J^2 for actuating this mechanism from the other side of the wagon is keyed upon the usual transverse shaft A .

It is obvious that the position of the brake hand-lever instead of being, as is usual, approximately horizontal may be vertical or otherwise disposed and that the quadrant-lever instead of being a beam-lever may be of bell-crank form, the arrangement and operation of the locking mechanism being the same irrespective of its position on the wagon-body, or the quadrant-lever may be reversed, as shown at Fig. 4, in order that additional weight may be brought to act at that side to withdraw the brake-blocks from contact with the wheels when the locking mechanism is released, the release of the said mechanism being effected by the action of an extension J^5 of the hand-lever J upon a projection I^2 on the pawl I . The entire brake and locking mechanism, excepting that the link E is connected direct to one of the push-rods and that these in turn are connected together, is otherwise the same as that shown and described in reference to Figs. 1 and 2.

In applying the above-described locking

device to any form of brake mechanism in which a hand-lever is employed for applying and releasing the brake it is only necessary that a pivoted pawl and a quadrant-lever formed substantially as described and connected to the brake push-rods be introduced in the brake mechanism, so that the pawl may be withdrawn from the ratchet-teeth of the quadrant by the upward action of either the hand-levers on the ends of the transverse shaft, and the quadrant-lever may be operated by the downward movement of the hand-levers to apply the brake upon the wheels of the wagon.

Having now described the invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with the usual brake mechanism for railway and other wagons, of a toothed quadrant-lever on the usual hand-lever shaft, adapted to be engaged in one direction by said lever to apply the brakes, the lever being arranged when moved in the opposite direction to release a locking-pawl from the teeth of the quadrant substantially as described.

2. In brake mechanism for railway and other wagons, the combination with the usual brake-blocks, push-rods and short actuating-levers, of a quadrant-lever toothed at one end and centered loosely on a transverse shaft or stud, and operatively connected with the push-rods, a hand-lever, keyed upon the quadrant-lever shaft, adapted when moved in one direction to engage with a heel upon the quadrant to apply the brakes, and when moved in the opposite direction to release from engagement with the ratchet-teeth of the quadrant a pawl arranged to automatically lock the brakes on, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN KNOX EWART.

Witnesses:

WALLACE FAIRWEATHER,
JNO. ARMSTRONG, Junr.