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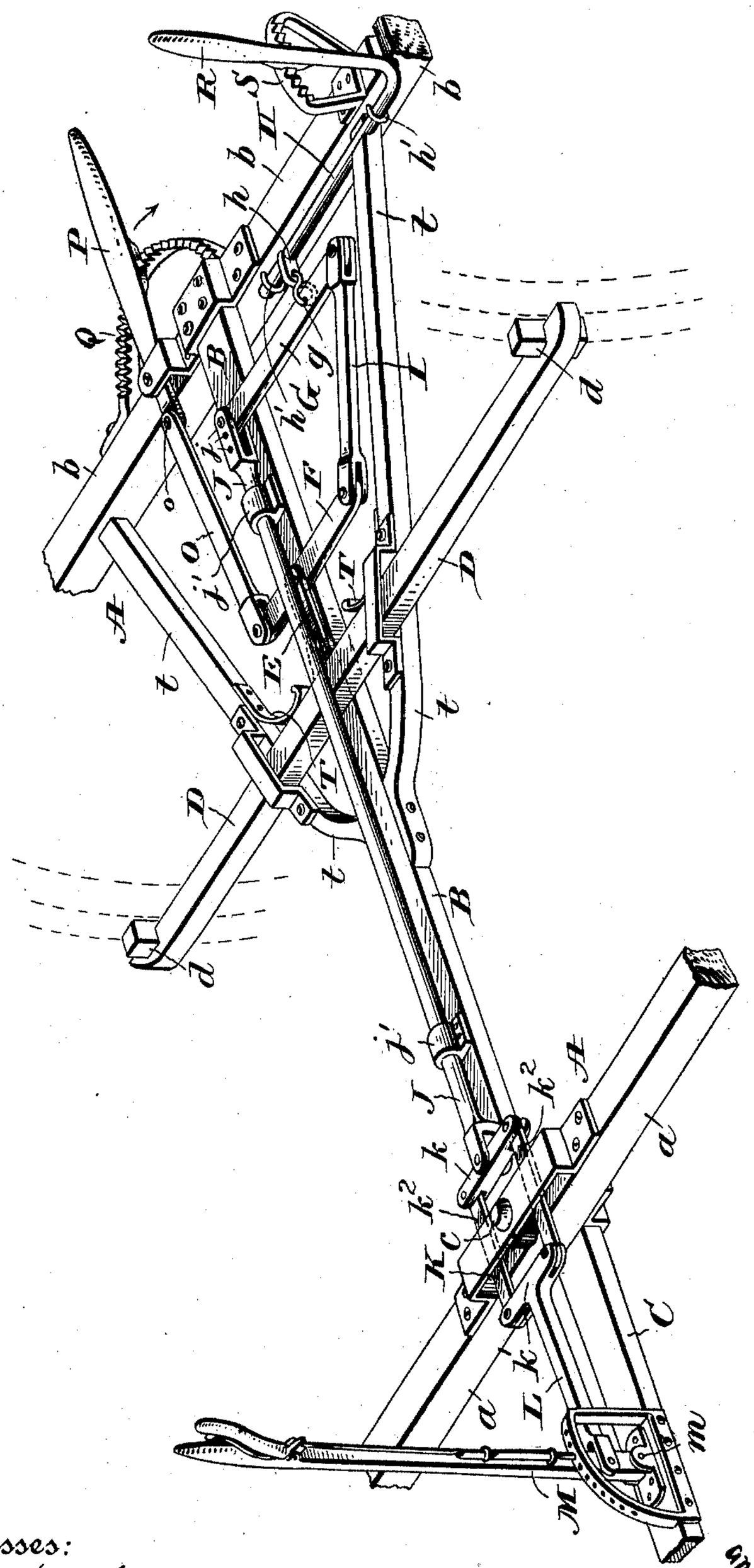
O. W. & A. L. WARNER.

WAGON BRAKE.

APPLICATION FILED FEB. 10, 1904.

NO MODEL.



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No. 759,945. Patented May 17, 1904.

UNITED STATES PATENT OFFICE.

OLIVER W. WARNER AND ADDISON L. WARNER, OF SYKESVILLE, MARYLAND.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 759,945, dated May 17, 1904.

Application filed February 19, 1904. Serial No. 194,367. (No model.)

To all whom it may concern:

Be it known that we, OLIVER W. WARNER and ADDISON L. WARNER, citizens of the United States of America, residing at Sykesville, in the county of Carroll and State of Maryland, have invented certain new and useful Improvements in Wagon-Brakes, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in wagon-brakes, and has for its primary object the provision of a simple and efficient operating mechanism designed for utilization in connection with the brakes of hay-wagons and like vehicles wherein it is frequently found expedient to manipulate the brakes from a point in the fore part of the vehicle and adjacent to the so-called "saddle-horse" or from the rear or side of the vehicle by a person afoot.

A convenient embodiment of the invention capable of attaining the desired ends above enumerated comprises a brake-beam, lever mechanism connected thereto, and operating devices associated with said lever mechanism for manipulating the brakes from either the front, side, or rear of the vehicle, either of said manipulating means being operable independently of the others.

The novel details in the construction and arrangement of the several parts of the mechanism will be apparent from the detailed description hereinafter when read in connection with the accompanying drawing, forming part hereof, and wherein the above-mentioned embodiment is illustrated.

In the drawing the figure is a perspective view of a part of the underframe of a vehicle, showing the present improvements applied thereto.

Referring to the drawing more specifically, wherein like reference characters refer to corresponding parts in the several views, A designates a fragmentary underframe, so much only thereof being shown as is necessary to clearly illustrate the present invention, it being understood that this underframe may be of any ordinary or preferred construction, special reference being directed simply to the forward bolster *a*, rear bolster *b*, reach B therebetween, tongue C, and the tongue-securing bolt *c*. The brakes in the present instance are applied to the rear wheels, the brake-shoes being represented at *d* and the brake-beam at D. Pivotally connected to the beam D intermediate its ends and centrally thereof is a short link E, in turn pivotally connected to a transversely-disposed lever F, the pivoting-point of said lever being nearer one end than the other thereof, for a purpose to be presently defined. G is a lever somewhat similar to the lever just referred to, pivoted at *g* to an arm or projection *h*, rigid with a transversely-disposed rock-shaft H, rotatable in the eyes *h'* upon the rear bolster *b*, and the shorter end of the lever G being pivotally connected to the longer end of the first-mentioned lever F through the medium of a link I.

J is a connecting-bar pivotally connected to the longer end of the lever G and adjustable thereon for the purpose of taking up any slack between the parts by means of the series of apertures *j*. This connecting-bar extends forwardly longitudinally of the vehicle and rests upon the reach B thereof, the same being held against sidewise movement relative to said reach by guide-brackets *j'*, secured to the reach and extending around the bar, said brackets, however, permitting endwise shifting of the bar when operating the brakes.

The forward end of the bar J is pivotally connected to the rear cross-piece *k* of a substantially rectangular open frame K, said frame comprising the cross-piece just referred to, a similar cross-piece *k'*, and connecting-links *k²*, the cross-pieces and links being pivotally connected at the corners of the frame. The purpose of this construction is to accommodate the tongue-bolt within the open space of the frame, whereby the draft upon the bar J is always centrally of the vehicle, and the frame is such that irrespective of the position of the tongue C no slack is permitted in the operating parts, inasmuch as the frame being connected indirectly, as will presently be described, to the tongue will swing laterally therewith in an obvious manner. The cross-

piece *k'* of the frame is fixedly secured to an arm L, the forward end of which is pivoted to a hand-lever projecting upwardly from the tongue C, the hand-lever being in turn pivoted to the tongue, as at *m*, and provided with the usual pawl-and-rack connection M for locking the same in adjusted positions.

To the short end of the link F, which is the end opposite to that to which the link I is secured, we pivotally secure a corresponding link O, the rear end of this link being connected by a pivot *o* to the inner end of a horizontally-disposed operating-lever P, pivoted upon the rear bolster *b* and arranged to engage the teeth of a rack Q to retain the same in adjusted position. At one side of the vehicle and to the projecting end of the rock-shaft H, we provide an operating-lever R for rotating the rock-shaft in its bearings, and to secure this last-mentioned lever in adjusted positions we employ a third rack S.

T represents a pair of springs secured to the rear hounds *t* and arranged so that their free ends will abut the surface of the brake-beam D to normally force the same and the brake-shoes carried thereby away from the wheels.

From the foregoing the operation of the mechanism may be followed. Supposing the operating-lever M to be thrown forward, the link L, frame K, and bar J will be correspondingly shifted in a forward direction, thereby throwing the outer end of the lever G, link I, and corresponding end of the lever F rearwardly. This movement, it being observed that the opposite end of the lever F is held fast by the link O and lever Q, will through the medium of the short link E draw the brake-beam rearwardly toward the wheels and apply the shoes thereto. If, on the other hand, the parts are in a normal position and it is desired to apply the brakes from the rear of the vehicle, the horizontal lever Q will be thrown in the direction of the arrow, thereby drawing the link O rearwardly, as also the end of the lever F to which the same is connected, which movement through the medium of the short link E aforesaid will draw the brake-beam rearwardly and apply the brakes, in this instance the opposite end of the lever F being held fast, owing to the fact that the operating-levers M and R are both locked, which of course prevent the parts intermediate the same and the lever F from moving. The third operation is by shifting the side lever R, which in turn rocks the shaft H, throwing its arm or crank *h* downwardly or upwardly, as the case may be, which draws the outer end of the lever G, the link I, and the corresponding end of the lever F rearwardly, which will apply the brakes, as before stated, the opposite end of the lever F being held fast, as in the first operation.

It is to be understood that slight changes may be made in the construction and arrangement of the parts herein disclosed without departing from the spirit of the invention and that the invention is therefore not to be limited to any structural characteristics of the special apparatus shown excepting in so far as the same may be included in the hereto-appended claims.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In brake-operating mechanism, an operating-bar, a horizontally-disposed lever pivoted thereto, means pivotally supporting the lever, a second similarly-disposed lever, a connecting-link between said levers pivoted thereto, a brake-beam, and a pivotal connection between said brake-beam and said second lever.

2. In brake-operating mechanism, a brake-beam, a pivoted lever, a pivotal connection between said lever and said brake-beam, a pivoted horizontally-disposed operating-lever, and a link between said levers pivoted thereto.

3. In brake-operating mechanism, an operating-bar, a lever pivoted thereto, means pivotally supporting the lever, a second lever, a connecting-link between said levers pivoted thereto, a brake-beam, a pivotal connection between said brake-beam and said second lever, a second link pivotally connected to said second lever, and a pivoted operating-lever pivotally connected to said second link.

4. In a brake-operating mechanism, an operating-bar, a lever pivoted thereto, means pivotally supporting the lever, a second lever, a connecting-link between said levers pivoted thereto, a brake-beam, a pivotal connection between said brake-beam and said second lever, the means for supporting the first-mentioned lever including a rock-shaft, and a pivotal connection between the same and said first-mentioned lever, in combination with an operating-lever for said rock-shaft.

5. In brake-operating mechanism, an operating-bar, a lever pivoted thereto, means pivotally supporting the lever, a second lever, a connecting-link between said levers pivoted thereto, a brake-beam, a pivotal connection between said brake-beam and said second lever, a second link pivotally connected to said second lever, a pivoted operating-lever pivotally connected to said second link, the means for supporting the first-mentioned lever including a rock-shaft, and a pivotal connection between the same and said first-mentioned lever, in combination with an operating-lever for said rock-shaft.

6. In brake-operating mechanism, a brake-beam, a pivoted lever, a pivotal connection between said lever and said brake-beam, a pivoted operating-lever, a link between said levers pivoted thereto, the means for pivotally supporting the first-mentioned lever including a rock-shaft, and a pivotal connection between the same and said first-mentioned lever, in combination with an operating-lever for said rock-shaft.

7. In brake-operating mechanism, a brake-beam, a horizontally-disposed pivoted lever, a pivotal connection between said lever and said brake-beam, a rock-shaft, a lever for operating said rock-shaft, and a pivotal connection intermediate the rock-shaft and said lever.

8. In combination with a brake, means for operating the same including a bar, an operating-lever, an arm pivoted to said lever, and connecting means intermediate said arm and said bar including a substantially rectangular open frame comprising oppositely-disposed cross-pieces, a pair of links pivotally connecting the same, and a pivotal connection between one of the cross-pieces and the member to which it is attached.

9. In combination with a brake, means for operating the same including a bar, an operating-lever, an arm pivoted to said lever, and connecting means intermediate said arm and said bar including a substantially rectangular open frame comprising oppositely-disposed cross-pieces, and a pair of links pivotally connecting the same.

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

OLIVER W. WARNER.
ADDISON L. WARNER.

Witnesses:
MAGGIE JACKSON,
ETHA AYLESTOCK.