(No Model.)

F. BIERY.

VEHICLE BRAKE.

No. 297,490. Patented Apr. 22, 1884.

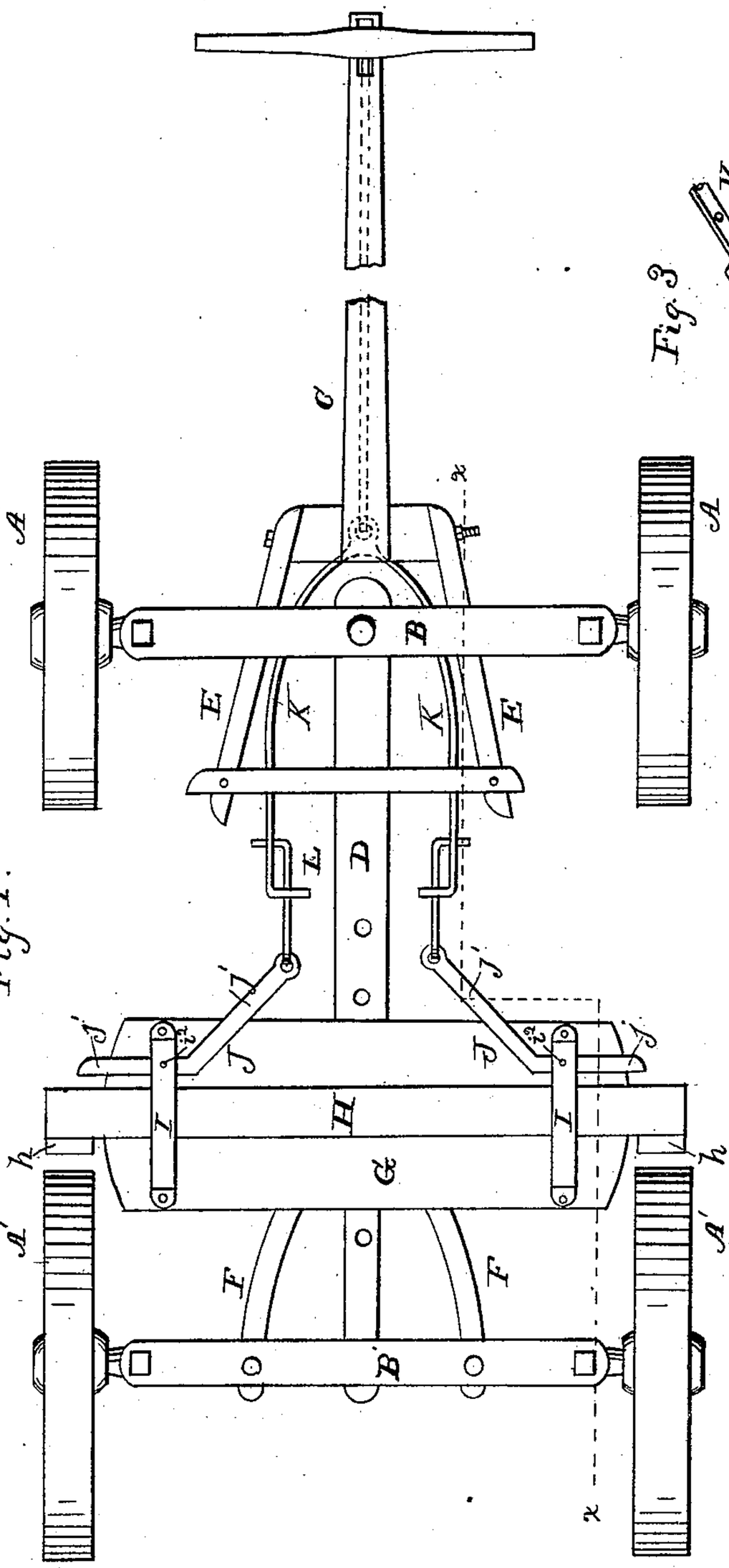

Fig. 1.

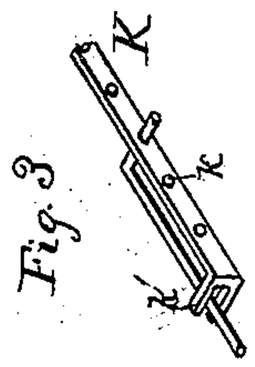

Fig. 3.

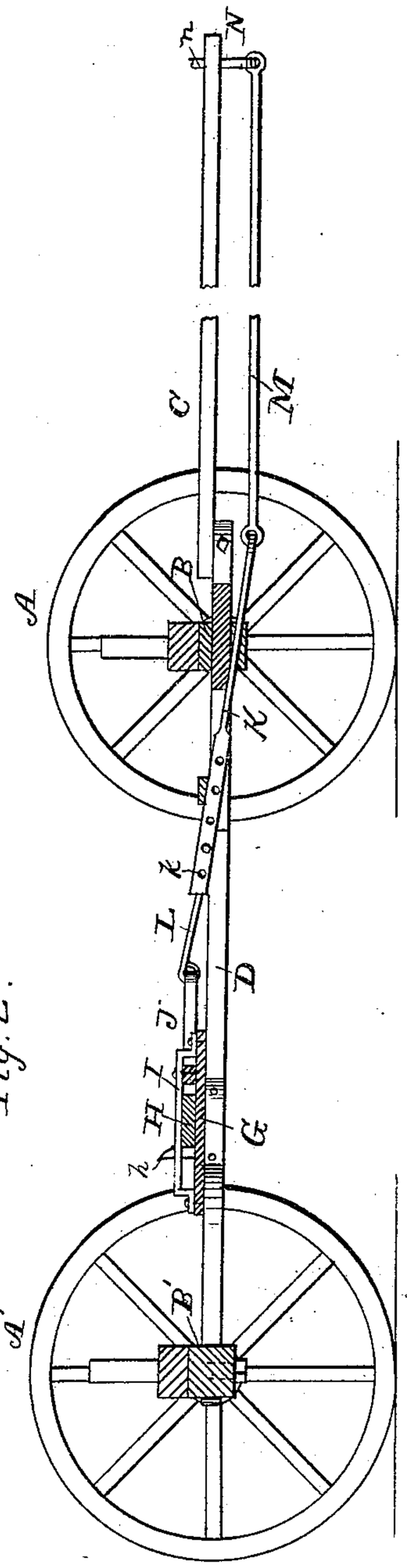

Fig. 2.

Witnesses:
H. E. Bliss.
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UNITED STATES PATENT OFFICE.

FRED. BIERY, OF MANTORVILLE, MINNESOTA.

VEHICLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 297,490, dated April 22, 1884.

Application filed January 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRED. BIERY, a citizen of the United States, residing at Mantorville, in the county of Dodge and State of Minnesota, have invented certain new and useful Improvements in Vehicles, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a top plan view of a sufficient portion of a vehicle to illustrate the manner of applying my invention thereto. Fig. 2 is a longitudinal section on the line *x x*, Fig. 1. Fig. 3 is a detail view.

In the drawings I have shown the wheels and running-gear of an ordinary draft-wagon, which, however, may be varied, and the general parts of the vehicle may be of any preferred character.

A A represent the front wheels; A′ A′, the rear wheels; B, the front axle; B′, the rear axle; C, the tongue; D, the pole or reach connecting the axles; E E, the front hounds, and F F the rear hounds.

G represents a board, plate, or platform secured to the hounds F F in any suitable way, bolts being sufficient.

H represents a bar extending from side to side of the vehicle, and carrying the brake-shoes *h* in the vertical planes of the rear wheels, A′ A′, said brake-shoes being made in any preferred manner.

To hold the shoes and the brake-bar H in proper place upon the bar or platform A, use is made of guides. These may be of the character of brackets or straps, as shown at I, being bolted to the board or platform G.

The brake-shoes are brought to bear against the rear wheels, A′ A′, by means of levers J. These are angular in form, the short arm *j* lying in close proximity to the brake-shoe *h*, and longer arm *j′* extending forward and inward. The short arm *j* is pivotally connected to the board or platform A by means of a bolt or pivot-rod, as at i^2, passing through the straps I and the board G. This insures that these pivots shall be more firmly and rigidly held than when they pass only through the levers and board, and prevents their working loose. There is one of these operating-levers J upon each side of the vehicle, and therefore both brake-shoes can be brought to bear against the wheel simultaneously.

I combine with these devices means for operating automatically to effect the braking of the vehicle, constructed and operated as follows:

K K are metallic bars, united together at the front end, forming a large U-shaped or stirrup-shaped device, by means of which a draft can be exerted simultaneously upon the levers J J. If preferred, they can be made by bending a single bar into the form described. At the rear end each of these arms or bars K is provided with a series of apertures, *k k*. In these apertures there fit rods or bars L, which are pivotally connected at their rear ends with the levers J J. The rear ends of the arms or bars K K are turned inwardly, and forked or provided with fingers *k′ k′*, which lie above and below the bars L L, so as to hold the parts in proper relation to each other. The bars or rods L L are bent outwardly at their forward ends, which ends fit into the apertures *k k*, and by having the parts constructed thus the position of the levers J J can be readily adjusted. Several adjustments are necessary to correspond to the various weights of the loads which may be placed upon the vehicle. Thus, in hauling hay or other materials in large heavy loads, it is necessary to have the levers J J so adjusted as that they shall not only be brought to bear instantly, but with as great a force as possible.

At the front end each of the bars K K (or the stirrup or loop formed thereof) is secured to a rod, M, which is situated beneath the tongue, being supported and guided therein by suitable hangers, if necessary. This bar is at the front end secured to an oscillating lever, N, which either passes through an aperture in the tongue or is pivotally connected with the front end. It has an upwardly-projecting part, *n*, to which the neck-yoke is attached. When the horses are pulling backward, as in going downhill, the forward movement of the vehicle rocks the bar or lever N, which draws forward the link or bar M, and in this way the levers J J are compelled to move backward and drive the brake-shoes against the rear wheels.

By mounting the brake-bar and levers J J upon a board which rests upon the hound and reach, I not only provide a bearing for these parts which insures that they shall always

work properly, but also form a convenient seat for the driver when the wagon is being used without a box.

In order to better accommodate the driver, I pivot levers J J near the ends of the board, which leaves a considerable portion of the board near its central part unobstructed by any of the moving parts of the brake.

By using the U-shaped connection K K between the link M and the bars L L, I am enabled to mount the parts entirely to the sides of the reach and to keep them low down upon the running-gear, thus preventing interference with the working of the brake when the wagon is used and loaded without a box.

What I claim is—

1. The combination, with the running-gear, of the platform or support secured to the running-gear in front of the rear wheels, the brake-bar H, mounted upon the platform, the bent levers J J, pivoted near the ends of the support or platform, the lever N, link M, and devices situated on each side of the reach, connecting said link with the levers J J, substantially as set forth.

2. The combination, with the running-gear, of the platform or support secured to the running-gear in front of the rear wheels, the brake-bar H, mounted upon the platform, and carrying at its ends the brake-shoes *h*, the straps or guides I, attached to the platform near its ends, and arranged to hold the cross-bar in place, the bent levers J J, pivoted at i^2 between the strap I and the platform, the arms *j* of which bear against bar H, and the arms *j'* of which extend inward and forward, whereby there is left a part of the platform near its center unobstructed by moving parts of the brake, the lever N at the front of the tongue, the link M, and connecting devices extending on each side of the reach, and connecting the link M with the levers J J, substantially as set forth.

3. The combination, with the running-gear, of the platform or support secured to the running-gear in front of the rear wheels, the brake-bar H, mounted upon the platform, and carrying at its ends the brake-shoes *h*, the levers J J, pivoted to the platform, the lever N, the link M, the U-shaped bar K K, having the perforations *k* at its rear ends, and the arms or bars L L, which are secured to the levers J, and may be made to engage with any of the apertures *k*, to adjust the amount of pressure exerted upon the brake-bar, substantially as set forth.

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

FRED. BIERY.

Witnesses:
A. ALDER,
EMILY ALDER.