

(No Model.)

2 Sheets—Sheet 1.

E. M. ALLEN.

WAGON BRAKE.

No. 322,340.

Patented July 14, 1885.

Fig. 1.

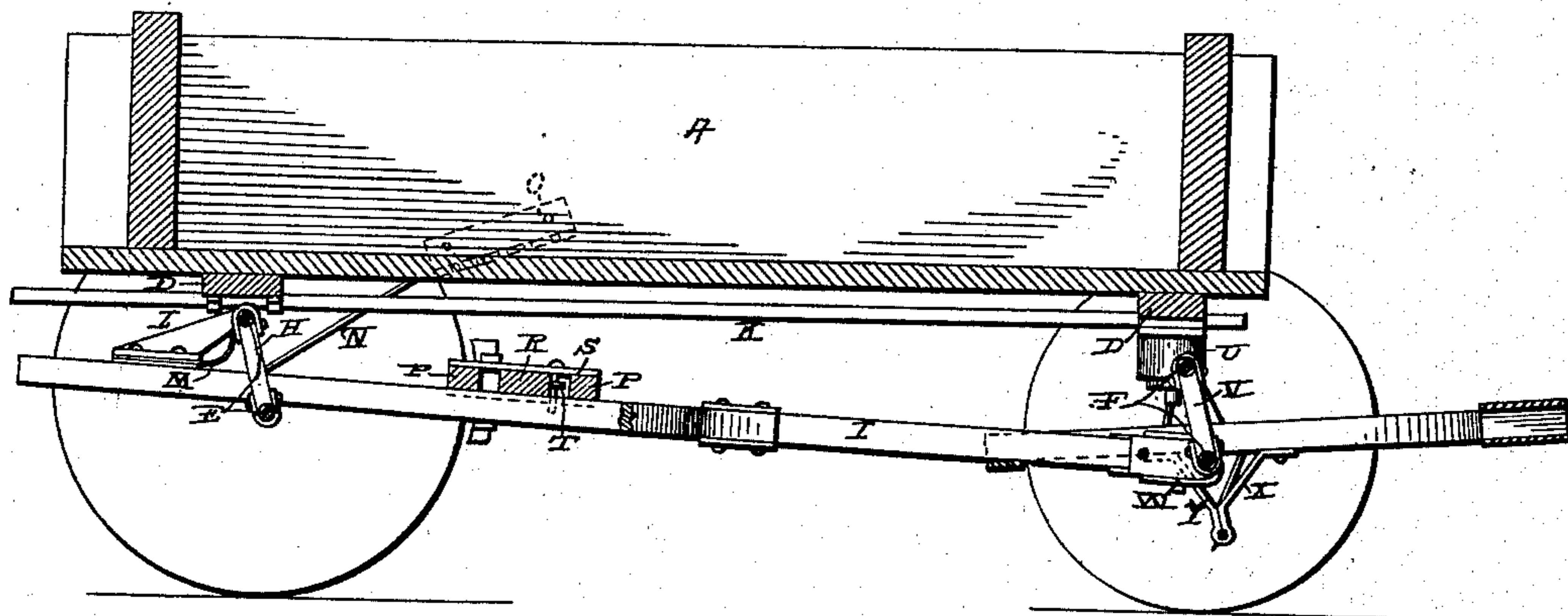
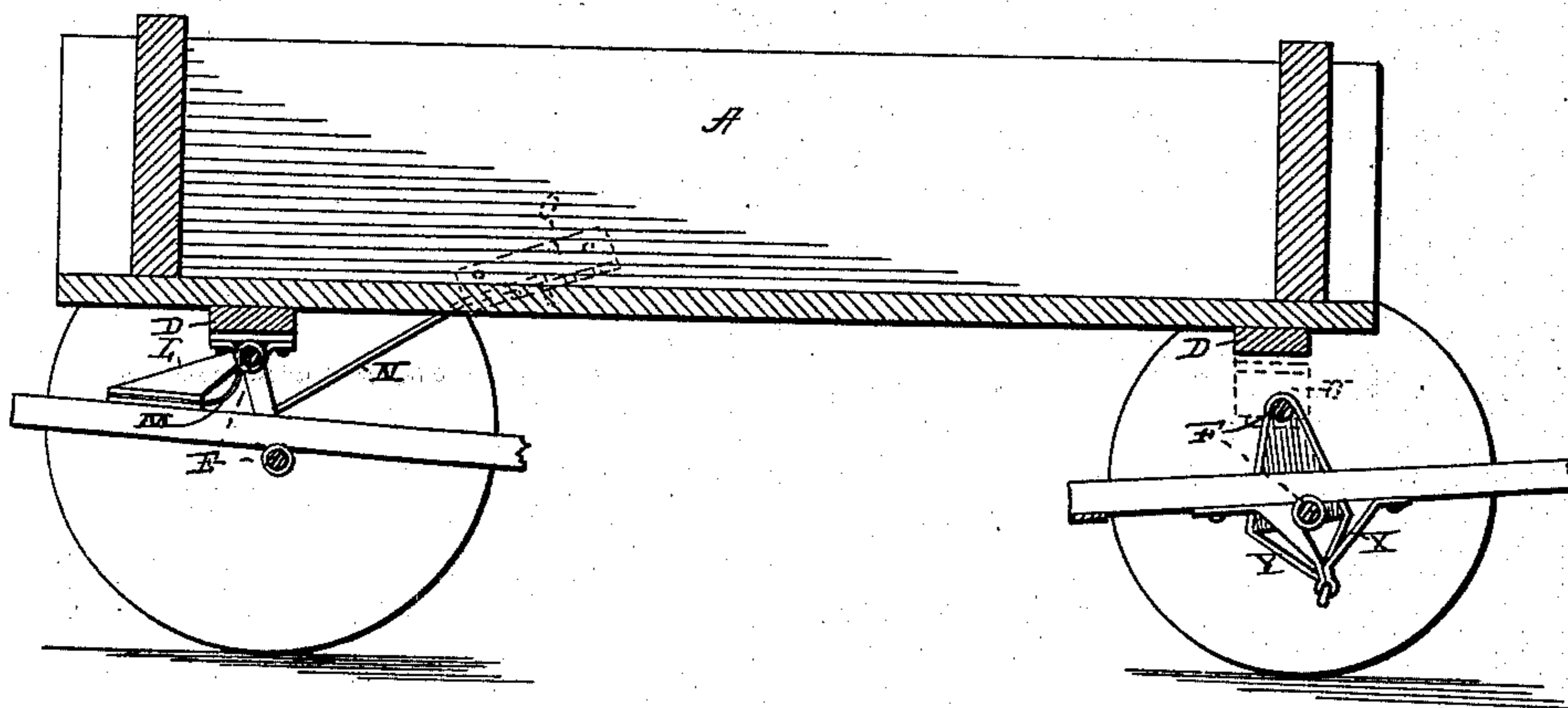


Fig. 2.



WITNESSES

Edwin L. Yewell.  
Chas. H. Davis.

INVENTOR

E. M. Allen

By *L. M. Alexander*  
Attorney

(No Model.)

2 Sheets—Sheet 2.

E. M. ALLEN.

WAGON BRAKE.

No. 322,340.

Patented July 14, 1885.

Fig-3-

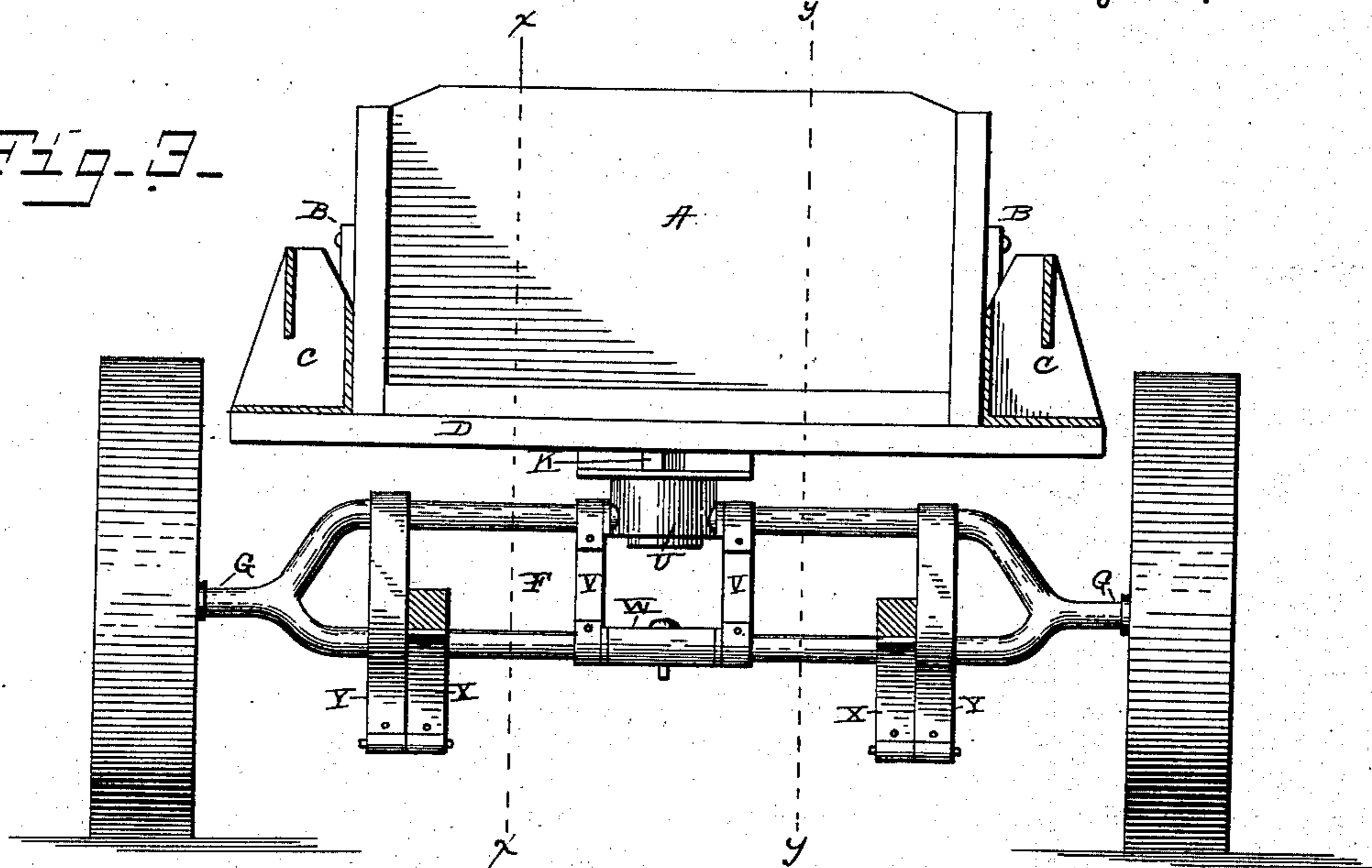


Fig-4-

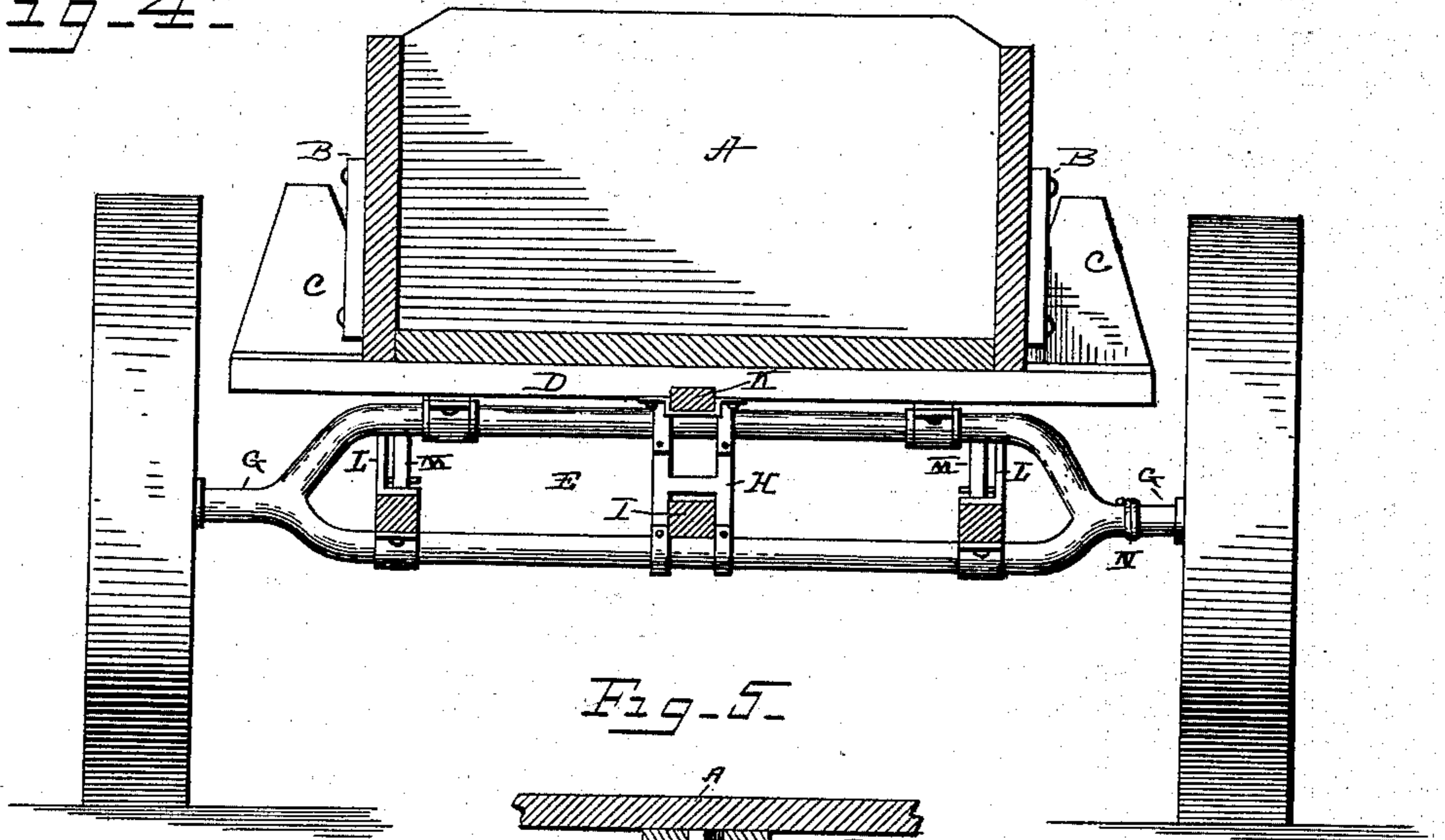
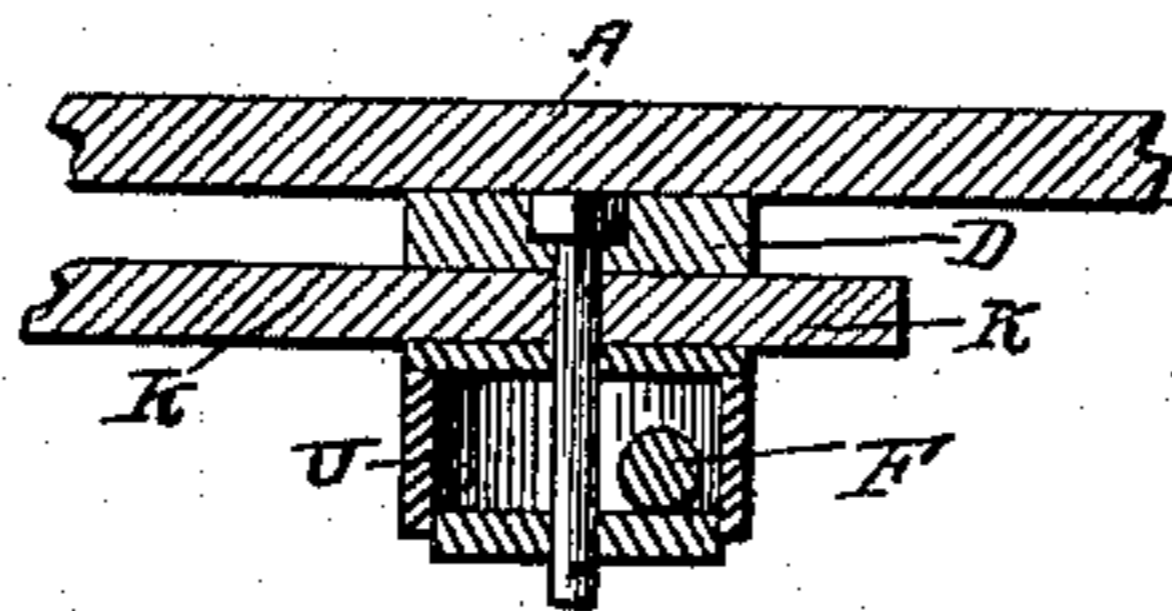


Fig-5-



WITNESSES

Edwin L. Yewell,  
Chas. Davis

INVENTOR

E. M. Allen

By *W. H. Alexander*  
Attorney

# UNITED STATES PATENT OFFICE

EDWARD M. ALLEN, OF STAFFORD, MARYLAND, ASSIGNOR TO SALLIE E. ALLEN, OF SAME PLACE.

## WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 322,340, dated July 14, 1885.

Application filed April 27, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD M. ALLEN, a citizen of the United States, residing at Stafford, in the county of Harford 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 drawings.

My invention relates to improvements in wagon-brakes, and is designed to produce a brake that will lock by the weight of the body or load and unlock by the draft of the horses.

The improvement consists, essentially, in the employment of a divided axle having an oscillatory motion, movable hounds and perch connected therewith, and the manner of connecting and operating the parts, the whole of which are fully hereinafter set forth, reference being had to the annexed drawings, in which—

Figure 1 represents a longitudinal section to one side of the center; Fig. 2, a similar section to the other side of the center; Fig. 3, a front elevation with parts in section; Fig. 4, a lateral section in front of the rear axle; Fig. 5, a vertical section through the swivel.

The body A has strips or cleats B on each side, between which snugly fit uprights or standards C on the bolsters D. This arrangement, while allowing the removal of the body, keeps the said body and the bolsters in rigid connection, preventing the said bolsters from rocking or twisting.

Secured pivotally to the rear bolster, by means of suitable bearings, is the upper section of a divided axle, E. This axle, as well as the front axle, F, has a lower section, preferably one-third as far below the spindle G as the upper section is above it.

To the center of the axle E, and extending from one section to the other, for the purpose of strengthening and bracing them, is a double stirrup or strut, H, the lower portion of which guides a lower reach or perch, I, an upper perch, K, connecting and bracing the bolsters.

The rear hounds are connected to the perch I, and pivotally connected to the lower section of the rear axle, and to the rear thereof carry stops L, which engage against the upper section as the horses draw, preventing too

great play of the said axle. Springs M, projecting beyond the contact points of the stops, break the shock of contact.

A hook, N, attached to the part of the rear axle, carrying one of the spindles, and engaging in a perforated plate, O, attached to the side of the body, serves to keep the brake locked or unlocked, when so desired.

On the rear hounds are two cross-pieces, P, with the brake-bar R between them.

At the ends of the pieces P are perforated plates S, through which pins pass, engaging in eyes T in the brake-bar. By this means the said brake-bar may be adjusted to or from the wheels, either to take up wear or to make the travel of the brake longer.

To the front bolster is a swivel, U, in which the upper section of the front axle has pivotal bearings.

On each side of the swivel are stirrups V, connecting the two sections of the axle. To the lower section between the said stirrups is a U-plate, W, to which the reach or perch I is pivoted. By this means the front axle is allowed to oscillate and also to swing as on a fifth-wheel.

To the front hounds are secured hangers X, the lower ends of which are pivoted to extended stirrups Y, near the ends of the divided portion of the axle. This gives sufficient leverage to overcome the weight of the body and load in unlocking the brake.

At the various pivotal connecting points on the axles collars are either formed or shrunk on, thus preventing the parts from having lateral play.

In operation the weight of the body and load on a descent, for instance, will carry the top section of the axle forward, which will throw the lower section proportionally to the rear, forcing the brake-heads against the wheels with more or less force according to the steepness of the declivity. On reaching the bottom of the hill the draft of the horses will carry the lower section forward and the upper section and body backward, the spindles in each case acting as pivots.

The right to vary the construction consistent with the spirit of the invention is reserved.

I claim—

1. In a wagon-brake, an oscillating or rocking axle connected to and operating the brake, substantially as and for the purpose specified.
2. In a wagon-brake, an oscillating or rocking axle connected to the wagon-body and to the brake, and automatically operating the same, substantially as and for the purpose specified.
3. In a wagon-brake, an axle having one section or portion three times as far above the axis thereof as the other section or portion is below the said axis, substantially as and for the purpose specified.
4. In a wagon-brake, a divided front and rear oscillating or rocking axle, in combination with the bolsters secured by suitable bearings to the upper sections of the axles and hounds and perch secured by suitable bearings to the lower sections, the rear hounds supporting the brake-bar, substantially as and for the purpose specified.
5. In a wagon-brake, an oscillating or rocking front axle pivotally connected and swiveled to the perch and front bolster, substantially as and for the purpose specified.
6. In a wagon-brake, in combination with oscillating or rocking axles connected by perch and hounds, fixed bolsters to which the axles are connected, said bolsters being held in position by an additional or supplementary perch, substantially as and for the purpose specified.
7. In a wagon-brake, a brake or lock-bar, adjustably held to the rear hounds relative to the wheels by means of pins passing through perforated plates on cross-pieces secured to said hounds, and engaging with said bar, substantially as and for the purpose specified.
8. In a wagon-brake, an oscillating or rocking axle, in combination with hounds pivoted thereto and provided with stops to the rear thereof, substantially as and for the purpose specified.
9. In a wagon-brake, an oscillating or rocking axle, in combination with hounds pivoted thereto and provided with stops to the rear thereof, said stops having spring-buffers, substantially as and for the purpose specified.
10. In a wagon-brake, a front oscillating or rocking axle pivoted to a swivel, turn-plate, or fifth-wheel, which is pivoted to the bolster, substantially as and for the purpose specified.
11. In a wagon-brake, a divided axle having stirrups or struts supporting and strengthening the said axle, substantially as and for the purpose specified.
12. In a wagon-brake, in combination with a divided axle, extended struts or stirrups on the said axle and hounds having hangers which are pivoted to the said struts, substantially as and for the purpose specified.
13. In a wagon-brake, a divided axle pivoted to the hounds and bolsters and having collars shrunk or formed on it to prevent lateral motion in the pivotal bearings, substantially as and for the purpose specified.
14. In a wagon-brake, in combination with a divided axle, a hook secured to the axial portion of said axle and engaging adjustably with the body, substantially as and for the purpose specified.

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

EDWARD M. ALLEN.

Witnesses:

BERTRAM N. STUMP,  
THOS. H. ROBINSON.