

No. 630,702.

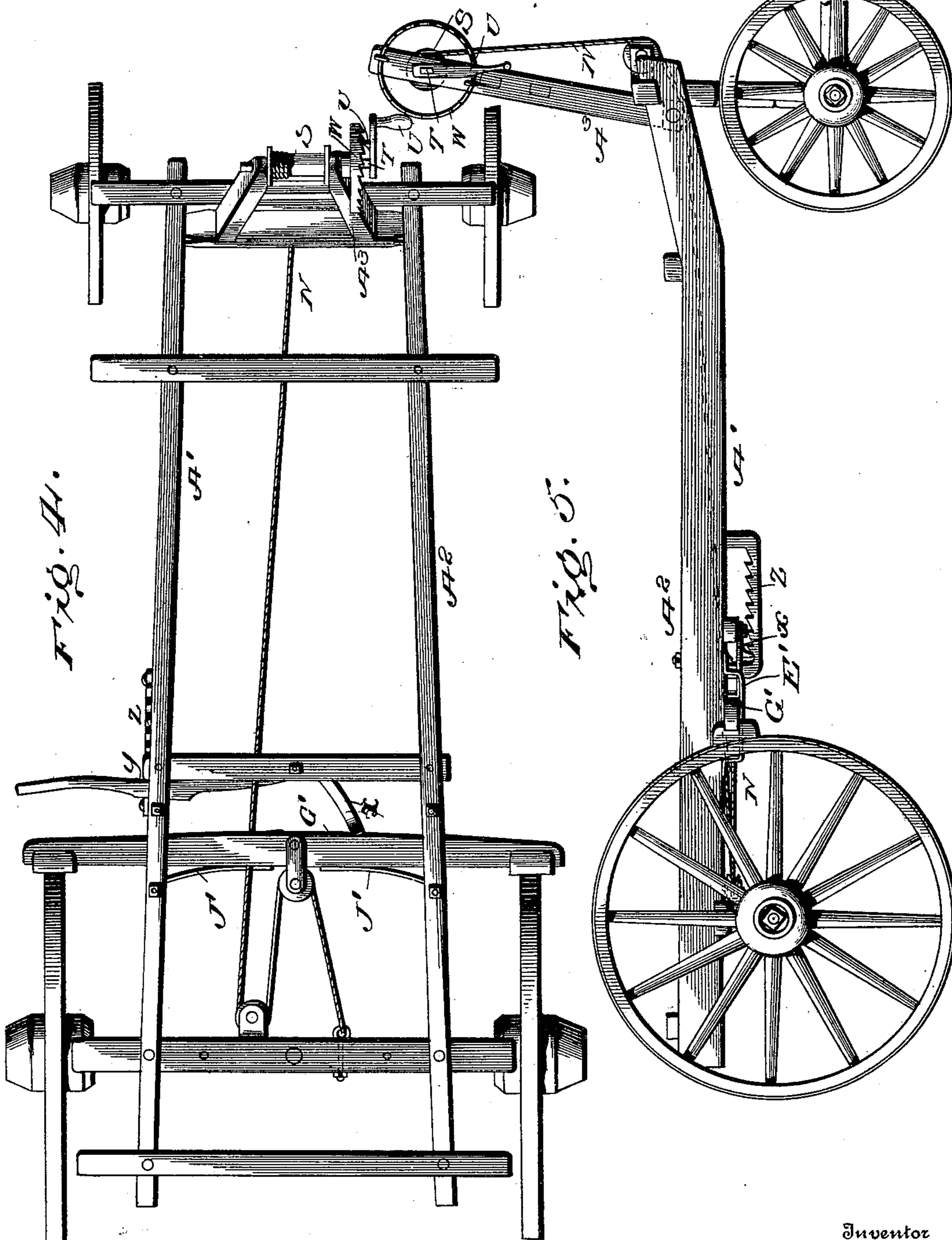
Patented Aug. 8, 1899.

A. P. HOWELL.
VEHICLE BRAKE.

(Application filed Nov. 7, 1898.)

(No Model.)

2 Sheets - Sheet 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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VEHICLE-BRAKE.

SPECIFICATION forming part of Letters Patent No. 630,702, dated August 8, 1899.

Application filed November 7, 1898. Serial No. 695,732. (No model.)

To all whom it may concern:

Be it known that I, ADISON P. HOWELL, a citizen of the United States, residing at Flushing, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Vehicle-Brakes; and I 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.

This invention relates to improvements in brake mechanism for wagons, hay-racks, and other vehicles; and its object is to provide mechanism of this class which shall possess superior advantages in point of simplicity, durability, and efficiency.

A further object is to provide a brake mechanism which avoids the use of cumbersome levers and analogous complicated devices for actuating the brake-beam, which is capable of being readily applied, and in which the parts are simple in construction and susceptible, when broken or otherwise injured, of being easily and conveniently repaired or replaced.

With these and other objects in view the invention consists in certain novel features of construction and combination of parts, which will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the drawings hereto annexed and forming a part of this specification, Figure 1 is a side view of a wagon equipped with my invention. Fig. 2 is a longitudinal section of the running-gear thereof. Fig. 3 is a plan view of the running-gear, showing the invention applied thereto. Fig. 4 is a top plan view of a hay-rack equipped with a modified form of the brake mechanism shown in the other figures. Fig. 5 is a side view thereof.

Referring now more particularly to the accompanying drawings, wherein like letters of reference designate corresponding parts throughout the several views, A represents the bed or body of a wagon of ordinary construction; B, the rear hounds thereof; C, the bolster mounted thereon, and D the wheels. Secured to the hounds, as shown in the present instance, or to the wagon-body, if desired, are a pair of parallel cross-bars E, connected

at the top and bottom by plates *f*, thereby forming a keeper or guide-frame in which the brake-beam G is arranged to slide longitudinally of the hounds, so as to throw the shoes H, mounted thereon, into and out of contact with the wheels. This beam is prevented from sliding laterally or transversely of the hounds by stops *i*, of suitable construction, carried thereby and which are adapted to abut against the lower plates *f*, and is normally held retracted by a bowed leaf-spring J, secured centrally to the rear cross-bar E and having its ends bearing against the beam to force it forwardly against the front cross-bar. By this means the brake-shoes are positively moved out of contact with the wheels at the instant the operating mechanism is released or slackened up, and undue wear on the tires is thereby prevented.

The operating mechanism comprises a lever K, pivotally mounted upon the side of the wagon-body and having its upper end arranged to move within a loop-bracket L. The outer bar *l* of this bracket is provided with rack-teeth *m*, with which the lever is adapted to engage; but, if desired, the lever may carry a pawl to engage said teeth and hold it locked. To said lever is secured one end of a chain or cable N, which passes over a pulley *o*, mounted vertically upon the outer side of the wagon-body, and from this point extends rearwardly and passes around two pulleys *q* and *q'*, mounted, respectively, upon the under side of the wagon-body and upon the front surface of the bolster C, at one side of the center thereof. From the pulley *q'* the chain or cable projects forwardly and is passed around a pulley *q''* on the center of the brake-beam, and thence projects rearwardly again and is fastened at its rear end to a staple or eye *r*, located on the opposite side of the center of said bolster from the pulley *q'*, thereby forming a V-shaped stretch or section the vertex of which is connected with the said central pulley on the brake-beam. By this construction it will be seen that when the lever is moved forwardly the cord or cable will be drawn upon and a direct central pull on the brake-beam will take place, and said beam will be moved rearward and the brake-shoes applied simultaneously with equal pressure.

As soon as the lever is released the spring J retracts the beam and restores the parts to their normal positions.

In Figs. 4 and 5 the brake mechanism is shown modified to a slight extent for application to a hay-rack and a different form of operating mechanism is employed. In this instance the brake-beam G' is mounted in guide loops or brackets E' , secured to the under side of the side bars A^2 of the rack body or frame A' , and secured thereto at their inner ends are a pair of retracting-springs J' , which have their outer free ends confined within and arranged to bear against said brackets. The mode of operation of these parts is, however, the same as that heretofore set forth with reference to the construction shown in Figs. 1, 2, and 3. The operating mechanism here employed consists of a winding-spool S, to which the free end of the chain or cable N is connected and which is mounted on a shaft T, journaled in the ladder or end section A^3 . To one end of this shaft is connected a crank-handle U, having a pawl lip or projection v , adapted to engage a rack W, fixed on said frame to hold the shaft and spool locked. The mode of operation of these parts will be readily understood. By this arrangement the operating mechanism may be conveniently operated by the driver from the top of the load. I also employ in this instance auxiliary operating means by which the brake-beam may be moved to apply the shoes by a person sitting on the side of the rack or walking alongside the same. This consists of a lever pivoted to the rack-frame and having an angularly-bent end x arranged to bear against the front side of the brake-beam. The opposite end y of the lever moves in a bracket z and is adapted to engage rack-teeth formed thereon and projects far enough beyond the frame to form a handle by which it may be conveniently operated.

From the foregoing description, taken in connection with the accompanying drawings, it will be seen that my invention provides a brake mechanism which is simple in construction, durable and efficient, and also capable of being easily applied and repaired, as the parts may be readily duplicated when injured or repaired by any one having ordinary knowledge of the use of tools.

The construction disclosed in Figs. 1 to 3, in which the brake parts are applied to the rear hounds, readily permits of the removal of the wagon-body and the mounting of a hay-rack on the running-gear, and when this

is done the brake mechanism may be employed by simply connecting the chain or cable with the operating device on the rack.

Changes in the form, proportion, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. In a brake mechanism for vehicles, the combination of a brake-beam carrying brake-shoes and arranged to slide within a guide toward and from the wheels, stops upon the beam to abut against the guides and prevent lateral movement of the beam, a pulley upon the center of the beam, a pulley on one side of the center of the rear bolster of the vehicle, a chain or cable passed around said pulleys and secured at its rear end to the bolster to form a V-shaped stretch or section whose vertex is connected with the beam-pulley and which is drawn upon to slide the beam rearwardly and bring the brake-shoes into engagement with the wheels, means for drawing on said chain or cable, and a spring or springs for normally holding the beam retracted, substantially as described.

2. In a brake mechanism for vehicles, the combination of a pair of transverse bars secured to the rear hounds or body of the vehicle at top and bottom by end plates to form a guide, a brake-beam mounted to slide in said guide and carrying brake-shoes to engage the rear wheels and stops adapted to abut against said end plates to limit the lateral movement of the beam, a pulley upon the center of the beam, a pulley on one side of the center of the rear bolster of the vehicle, a chain or cable passed around said pulleys and secured at its rear end to the bolster to form a V-shaped stretch or section whose vertex is connected with the beam-pulley and which is drawn upon to slide the beam rearwardly and bring the brake-shoes into engagement with the rear wheels, means for drawing on said chain or cable, and a bowed plate-spring secured centrally to the rear transverse bar of the guide and having its ends bearing on the beam to normally hold the same retracted, substantially as described.

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

ADISON P. HOWELL.

Witnesses:

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