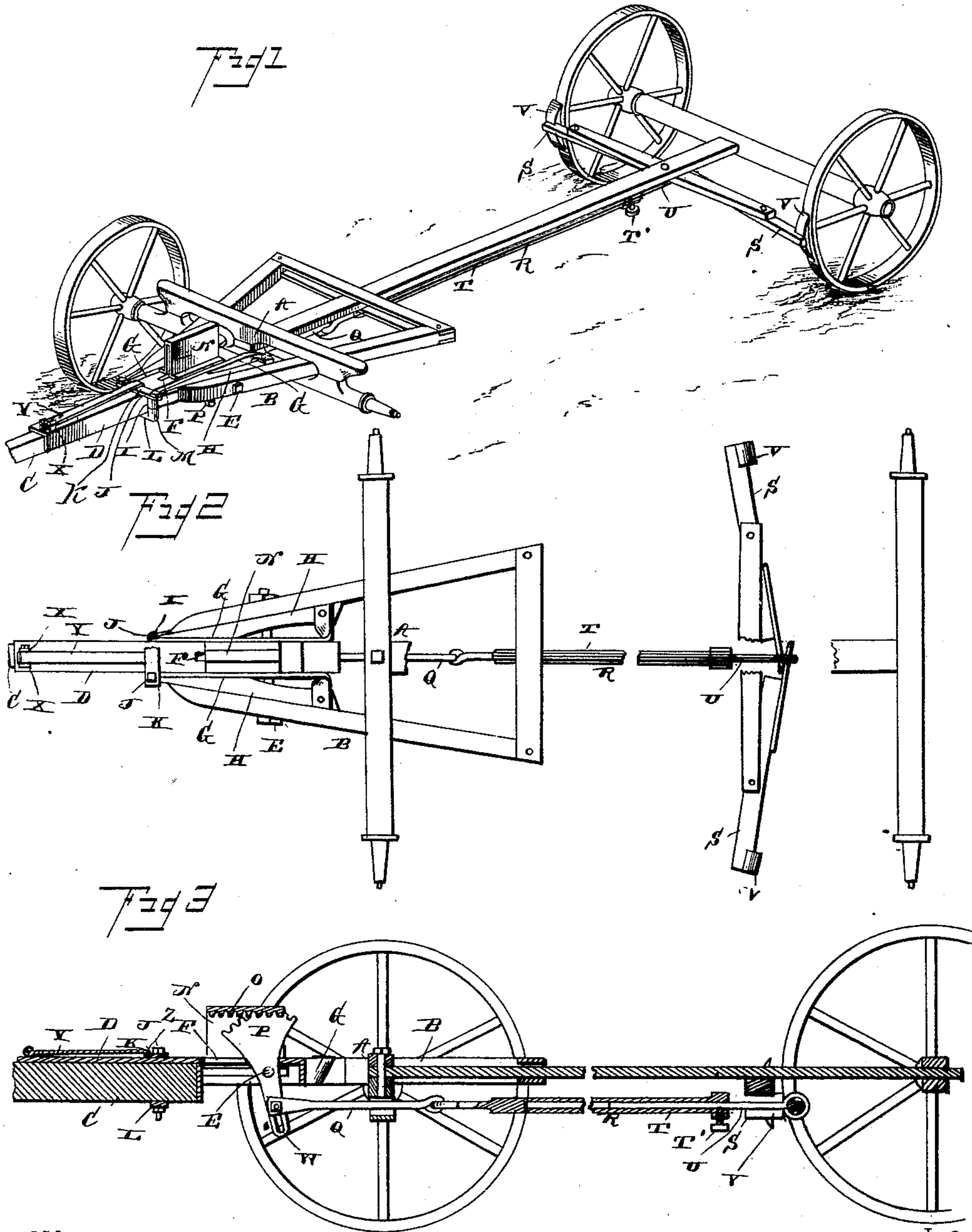


(No Model.)

B. F. WILCOX & E. S. CHATFIELD.
AUTOMATIC WAGON BRAKE.

No. 414,271.

Patented Nov. 5, 1889.



Witnesses

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UNITED STATES PATENT OFFICE.

BENAJAH F. WILCOX, OF WOODHULL, AND EBEN S. CHATFIELD, OF ADDISON, NEW YORK.

AUTOMATIC WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 414,271, dated November 5, 1889.

Application filed June 12, 1889. Serial No. 313,978. (No model.)

To all whom it may concern:

Be it known that we, BENAJAH F. WILCOX, of Woodhull, Steuben county, New York, and EBEN S. CHATFIELD, citizens of the United States, the latter residing at Addison, in the county of Steuben and State of New York, have invented a new and useful Automatic Wagon-Brake, of which the following is a specification.

Our invention relates to improvements in automatic wagon-brakes; and it consists in certain novel features hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of our improved brake applied to a running-gear. Fig. 2 is a plan view with a part of the reach broken away. Fig. 3 is a longitudinal vertical section.

The running-gear A may be of any desired arrangement, and is provided at its front end with the usual hounds B, as shown. The tongue C has its rear end secured within a casting D, and the said casting is secured between the front ends of the hounds by means of a pin E passing transversely through the hounds and the longitudinal slots F in the rear end of the casting. The casting is prevented from moving laterally and caused to move in a true central line by the guide-irons G, secured to the blocks H, arranged between the front ends of the hounds, as clearly shown. These guide-irons are provided at their front ends with the eyes or loops I, through which the securing-bolts J are passed. The securing-bolts J pass through a clip-plate K, arranged transversely on the upper side of the casting, and also through a clip-plate L, which passes beneath the tongue, and thereby aids in supporting the same. The ends of this clip-plate L are provided with the vertical ears M, which pass upon opposite sides of the tongue, and thereby aid in guiding the same. On the upper side of the casting we provide the vertical box N, which is provided on the lower face of its upper side with a rack-bar O, and the said rack-bar engages the upper toothed edge of a segmental lever P, which is pivoted on the transverse pin E, as clearly shown. The lower end of this lever is connected with the front end of a pitman

Q, the rear end of which is connected with the reciprocating rod R, having its rear end passing between the inner adjacent ends of the brake-levers S and connected thereto, as shown. The said rod is constructed in two members T U, which are adjustably secured together by a set-screw T', as shown. The front member T is hollow and the set-screw is mounted therein and bears on the rear member, the end of which enters the front member. The brake-shoes V are secured to the outer ends of the brake-levers, and are provided with a soft-metal face, so as not to bite and thereby destroy the tire of the wheel. The lower end of the lever P is provided with a longitudinal slot W, in which the pivot-pin of the pitman Q plays, so as to secure a more positive action of the brake. It has been found in practice that the play given to the front end of the pitman by this slot enables the same to apply a more powerful pressure to the brake-shoes when they are in use, and also to move them farther from the wheels when not in use. On the upper side of the casting, at the front end of the same, we provide the lugs X, between which we pivot the front end of the latch Y. This latch consists of a metallic bar having its rear end bent downward to provide the lip Z, which is adapted to engage the clip-plate K to prevent the application of the brake when the wagon is being backed.

From the foregoing description it is thought the operation of our improved brake will be readily understood. In the normal position of the parts the tongue will be drawn forward and the latch Y will be arranged with its lips Z in rear of the clip-plate K, as shown in Fig. 1. In this position the lower end of the segmental lever will be thrown backward, consequently swinging the inner ends of the brake-levers rearward, and thereby throwing the outer ends of the same away from the wheels. Should the vehicle be on a downgrade, however, the tongue will be caused to move rearward, and thereby cause the rack-bar to act on the segmental lever so as to swing the lower end of the same forward, thereby drawing the pitman and the reciprocating rod forward, so as to swing the outer

ends of the brake-lever rearward and apply the shoes to the wheels. The wagon will thus be prevented from acquiring too great a velocity, as will be readily understood. Should
 5 it be desired to back the wagon, the tongue is drawn forward sufficiently to bring the rear end of the latch in advance of the clip-plate K, so that the backward pull of the tongue will draw the said latch against the said clip-plate, and the continued rearward movement
 10 of the tongue and the consequent application of the brakes will be prevented.

It will be observed that our improved brake is composed of few parts, which are simple in
 15 their construction and positive in their operation. By employing the rack-bar and the segmental lever the motion of the tongue will be communicated directly and positively to the reciprocating rod and the brake-levers, so
 20 that the proper operation of the same will be assured at all times. The tongue is caused to move in a straight line and be prevented from lateral movement, and so twisted or broken, by the guide-irons and the clip-plates, and at
 25 the same time is supported in such a manner as to relieve the neck of the draft-animal from any undue strain.

By constructing the reciprocating rod in two members, as shown and described, its
 30 length can be readily adjusted so as to vary the stroke of the levers as may be desired to take up wear.

Having thus described our invention, we claim—

35 1. The combination, with the hounds, of the transverse pin E, secured in the front ends of the same, the tongue, the casting secured

to the rear end of the tongue and provided with longitudinal slots through which the pin E passes, the box on the upper side of the
 40 casting having a rack-bar in its top, the segmental lever pivoted on the pin E and engaging the rack-bar, the brake-levers, and connections between the brake-levers and the segmental lever, as set forth. 45

2. The combination, with the hounds, of the guide-irons G, arranged between the front ends of the same, the casting secured to the tongue and moving between the said guide-irons, the pivot-pin passing through the
 50 hounds, the guide-irons and longitudinal slots in the casting, the segmental lever operated by the casting, and connections between the said lever and the brake-levers, as set forth. 55

3. The combination, with the hounds and the casting secured to the tongue and moving longitudinally between the hounds, of the guide-irons arranged on opposite sides of the
 60 casting and having eyes or loops at their front ends, the clip-plates arranged above and below the casting, and the securing-bolts passed through the said clip-plates and the eyes or loops at the front ends of the guide-irons, as set forth. 65

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

BENAJAH F. WILCOX.
 EBEN S. CHATFIELD.

Witnesses:

EUGENE WADE,
 F. J. MILLER.