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Patented Feb. 6, 1900.

W. I. WOOD & W. M. BARNES.  
AUTOMATIC WAGON BRAKE.

(No Model.)

(Application filed Mar. 5, 1898. Renewed July 24, 1899.)

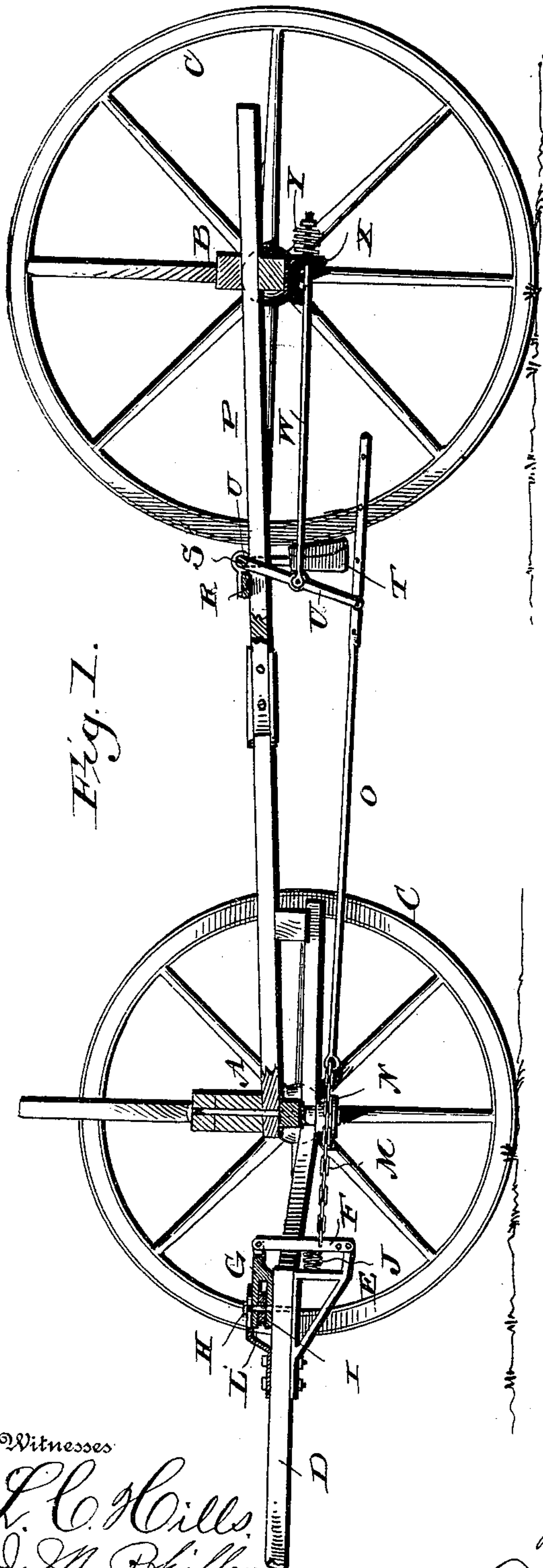


Fig. 1.

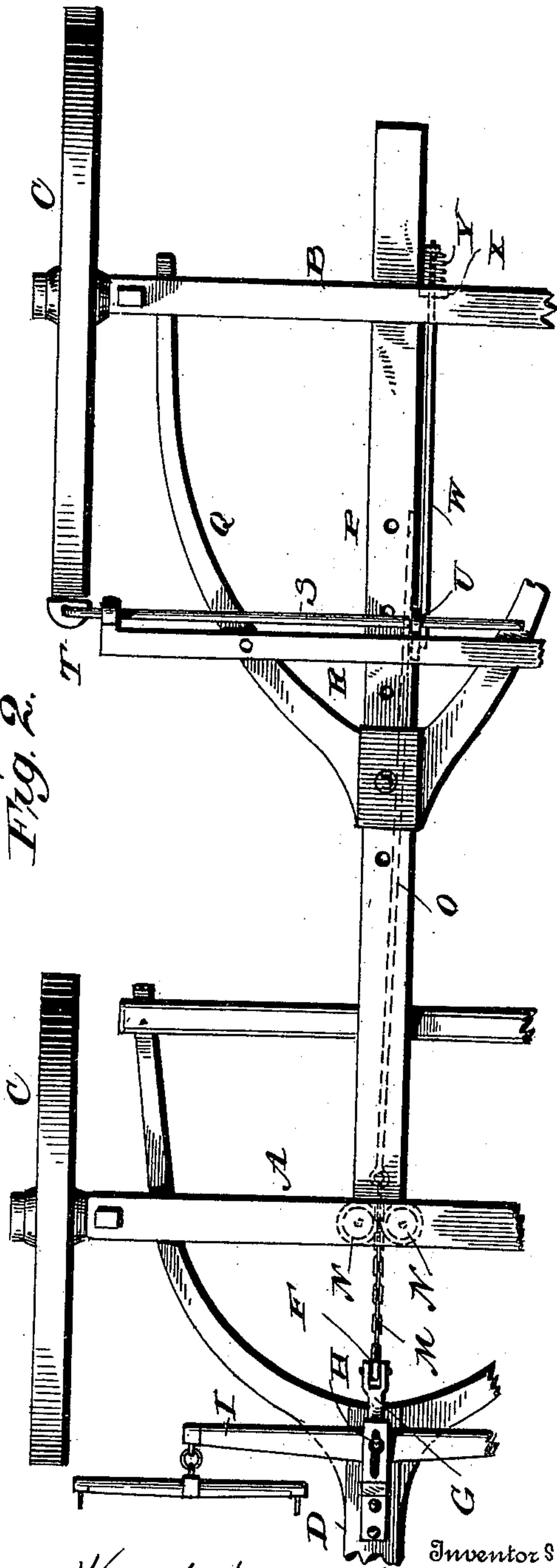


Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## AUTOMATIC WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 643,024, dated February 6, 1900.

Application filed March 5, 1898. Renewed July 24, 1899. Serial No. 725,012. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM INGHAM WOOD and WILLIAM M. BARNES, citizens of the United States, residing at Circleville, in the county of Pickaway and State of Ohio, have invented certain new and useful Improvements in Automatic Wagon-Brakes; and we do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to an improvement in automatic wagon-brakes; and it consists in a spring-actuated lever that is pivotally connected to the rear end of the tongue, a sliding clevis attached to the upper end of the lever and through which the bolt upon which the singletree is placed and through which the doubletree passes, and a chain connected to the lever near its lower end, combined with a connecting-rod, a partially-rotating shaft having its ends turned downward, so as to carry the brake-blocks, an arm extending downward from the partially-rotating shaft, and a spring-actuated rod which extends backward from the arm under the rear axle, as will be more fully described hereinafter.

The object of our invention is to provide an automatic brake for vehicles in which the forward movement of the team takes the brakes from the wheel; but as soon as the animals begin to hold back the brakes are automatically applied, so as to instantly stop the vehicle without any care or attention upon the part of the driver.

In the accompanying drawings, Figure 1 is a vertical longitudinal section showing a brake embodying our invention. Fig. 2 is a plan view of the same.

A represents the front axle, B the rear one, and C the wheels, all of which are constructed in the usual manner. To the under side of the rear end of the tongue D is secured the metallic supporting-frame E, either of the construction here shown or any other that may be preferred, and to which the vertical lever F is pivoted. To the upper end of this lever is pivoted the horizontally-sliding plate

G, which rests upon the top of the rear end of the tongue D and through the front end of which plate G passes the bolt H, upon which the doubletree I is pivoted. Secured to the top of the tongue is the sliding clevis L, through which the bolt H passes and in which slot the bolt moves back and forth. Between the rear end of the frame E and the front edge of the lever F is placed the spring J, which serves to force the lever F backward as soon as the rod is left free to move.

Secured to the lever F near its lower end is a short section M of a chain, which extends backwardly between two guide-rails N on the under side of the front axle A, to the rear end of which is fastened a connecting-rod O, which extends backward any suitable distance. Through the lower end of the lever F may be made a series of holes, and the front end of the chain may be changed from one to the other, according to the amount of movement it is desired that the brakes shall have.

At a point in advance of the front edges of the rear wheels upon the hounds Q is fastened a flat rod or bar R, provided with suitable guides at its ends, and journaled in these guides is a partially-rotating rod or shaft S, which has its two ends turned downwardly just in advance of the wheels, and to these ends the brake-blocks T are secured. Rigidly secured to the rod S to one side of the reach P is the arm U, which has its lower end fastened to the rear end of the rod O, which is provided with a suitable number of perforations, so that the lower end of the arm U can be changed from point to point as the ends are removed back and forth upon the reach P for the purpose of lengthening or shortening the wagon.

Pivoted to the arm U at or near its center is a rod W, which has its rear end to pass through a suitable guide or support X on the under side of the rear axle B, and to the rear end of this rod W is applied a spring Y, the tension of which is controlled by a nut on the screw-threaded end of the rod in the usual manner. This spring Y acts in conjunction with the one J for the purpose of instantly applying the brakes as soon as the slightest backward pressure on the part of the team takes place or the vehicle stops. The spring exerts a constant pull upon the arm U for the



purpose of throwing the brake-blocks into action with the wheels.

As long as the doubletree I is drawn forward the upper end of the lever F is also  
5 drawn forward, and this lever F, through the chain M and rod O, exerts a pull upon the arm U upon the turning shaft or rod S, and thereby throws the brake-blocks T away from the wheels. As soon, however, as the team  
10 begins to hold back the upper end of the lever F is forced backward by the action on the spring J, and then the spring Y, being free to act, draws the arm U backward and instantly applies the brakes.

15 It will be seen that this brake is entirely automatic in its operation, the two springs J Y serving to operate the parts as soon as they are left free to move, and thus nothing is left to the care or judgment of the driver.

20 Having fully described our invention, we claim—

1. In an automatic brake mechanism, a spring-actuated lever attached to the tongue, and which is guided by the doubletree in one  
25 direction, and by the spring in the other, and

suitable connections extending backward from this lever to operate the brake-arm, combined with a spring-actuated rod also connected to the brake-arm, for automatically applying the brakes, substantially as set  
30 forth.

2. In an automatic brake mechanism, a spring-actuated lever pivoted upon a suitable support at its lower end, a sliding plate connected to its upper end, a doubletree, and bolt  
35 which passes through the plate and the doubletree, and a sliding clevis combined with suitable connections between the lever and the brake-arm, a partially-rotating shaft carrying the brake-blocks, an arm, and a spring-  
40 actuated rod connected to the arm for automatically applying the brake-blocks, substantially as specified.

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

WILLIAM INGHAM WOOD.

WILLIAM M. BARNES.

Witnesses:

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