No. 809,151. PATENTED JAN. 2, 1906.

E. F. VEATCH.

AUTOMATIC WAGON BRAKE.

APPLICATION FILED JUNE 3, 1905.

Fig. 1.

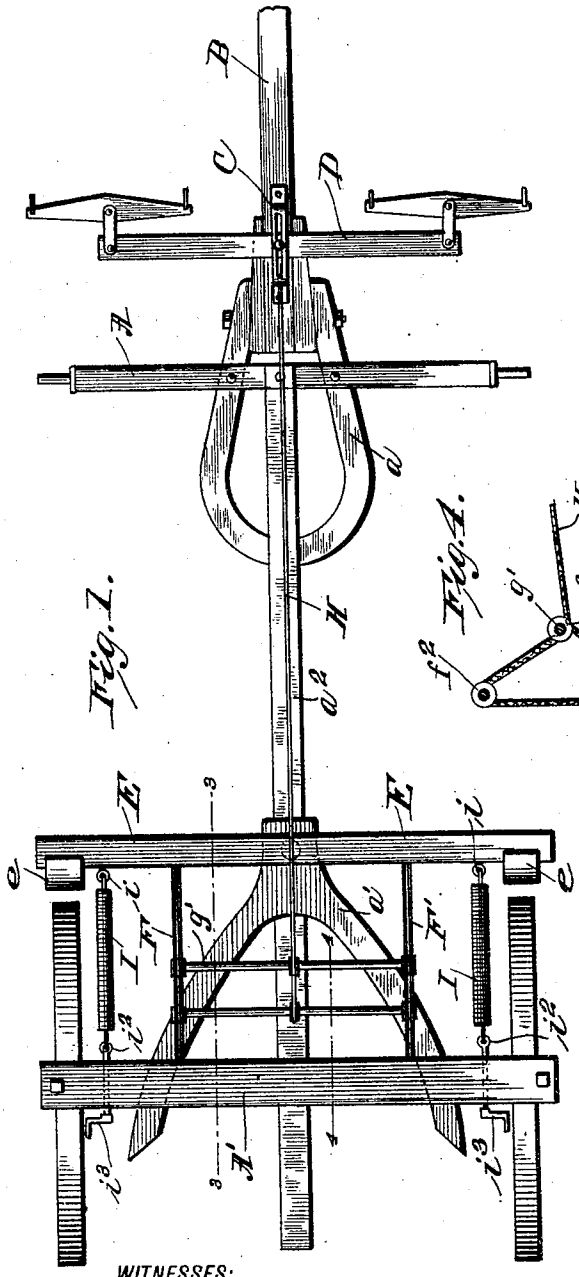


Fig. 2.

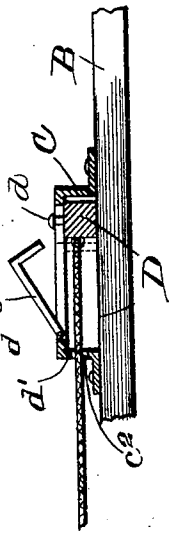


Fig. 4.

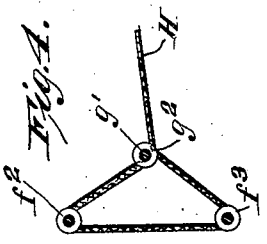
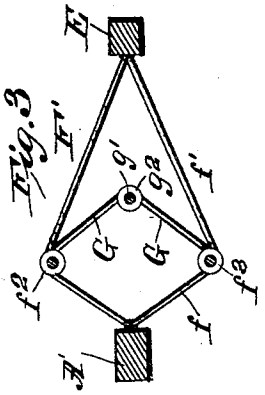


Fig. 3.



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AUTOMATIC WAGON-BRAKE.

No. 809,151. Specification of Letters Patent. Patented Jan. 2, 1906.

Application filed June 3, 1905. Serial No. 263,578.

To all whom it may concern:

Be it known that I, EVERTT FRANK VEATCH, a citizen of the United States, and a resident of Palco, in the county of Rooks and State of Kansas, have invented certain new and useful Improvements in Automatic Wagon-Brakes, of which the following is a specification.

My invention is an improvement in automatic wagon-brakes; and it consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings, forming a part hereof, Figure 1 is a plan view of a wagon provided with my improved brake, the bed being removed. Fig. 2 is a longitudinal view of the housing for the doubletree. Fig. 3 is an enlarged detail of the toggle-levers, and Fig. 4 is an enlarged detail of the connection of the cable with the rods of the toggle-levers.

In the practical application of my invention I provide a wagon of ordinary construction comprising the front and rear axles A A′, the front and rear hounds *a a′*, and coupling-pole a^2. The tongue B is connected to the front hounds in the usual manner, and upon the upper surface thereof is arranged a housing C, in which is mounted the doubletree D, transversely of the tongue and slidable longitudinally thereon within the housing.

A block *c* is pivotally mounted in that end of the housing nearest to the wagon in an opening *c′* in the upper face of the housing and is of sufficient length to drop in behind the doubletree when the same is at the forward end of the housing. A pin *d* in the doubletree engages a slot in the top of the housing and is provided with a wide head engaging the upper surface of the housing to retain the doubletree in proper transverse relation to the tongue. When the block *c* is elevated, the doubletree is free to move backward and forward in the housing.

A brake-beam E, provided at either end with a brake-shoe *e*, is arranged adjacent to the rear axle and is connected thereto by pairs of oppositely-disposed toggle-levers F F′ at either end of the brake-beam. The toggle-levers comprise the rear arms *f*, pivoted to the rear axle, and the forward arms *f′*, pivoted to the brake-beam. Rods f^2 f^3 connect the corresponding joints of the pairs of levers, and the toggle-levers G connect the joints of the respective pairs of levers. A rod *g′* connects the joints of the last-named toggle-levers and is provided with a pulley g^2, arranged centrally thereof. The toggle-levers F F′ form a diamond-shaped frame connecting the brake-beam to the rear axle, and the toggle-levers G are bent forwardly, a cross-section through the rods f^2, f^3, and *g′* being triangular in outline. A cable H is secured to a clevis *d′*, attached to the ends of the pin *d*, and extends backwardly through a circular opening c^2 in the housing under the pulley g^2 and over the rod f^2, downward under the rod f^3, and forward to the pulley g^2, to which it is secured after partially encircling the same. Springs I are secured to the clevises *i* at either end of the brake-beam and are connected with a screw-threaded rod i^2, engaging a screw-threaded opening in the rear axle and provided with a crank i^3 for manipulating the rod.

The operation of my improved brake is entirely automatic. When tractive force is exerted upon the doubletree, the cable is drawn forward, which forces the rods f^2 f^3 together, extending the toggles and releasing the brake from the wheel. When the wagon starts down an incline and the traction upon the doubletree is relaxed, the springs draw the brake-beam backwardly toward the axle, breaking the toggle-levers and forcing the brake into contact with the wheels. In backing, the block *c* is dropped down into the housing behind the doubletree, thus retaining it in its forward position and with the brake relaxed. By means of the screw-threaded rods the strength of the springs may be regulated to any desired degree of braking force.

The brake may be easily applied to an ordinary wagon and may be used with or without a bed, being equally efficient in both cases. It is simple in construction, entirely automatic in action, and is not liable to get out of order. Since considerable strain is brought to bear upon no part, the danger of breakage is reduced to a minimum.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a wagon-brake, the combination of the front and rear axles, a tongue connected with the front axle, a housing on the tongue provided with an opening through its upper face, a doubletree slidably mounted in the housing, a block pivoted in the opening in the housing for retaining the doubletree in its forward position, a brake-beam supported

adjacent to the rear axle, brake-shoes at either end of the beam, pairs of oppositely-disposed toggle-levers connecting the ends of the brake-beam with the rear axle, rods connecting the joints of the corresponding levers, toggle-levers connecting the joints of the respective pairs of levers, a rod connecting the joints of the last-named toggle-levers, a pulley on the rod, a cable secured to the pulley on the last-named rod and passing around the first-named rods and under the pulley to the doubletree, a spring secured to the brake-beam, a screw-threaded rod traversing the rear axle and connected with the spring, and a crank for manipulating the rod.

2. In a wagon-brake, the combination of the front and rear axles, a tongue connected with the front axle, a doubletree slidably mounted on the tongue, means for retaining the doubletree in its forward position, a brake-beam supported adjacent to the rear axle, brake-shoes at either end of the beam, pairs of oppositely-disposed toggle-levers connecting the ends of the brake-beam with the rear axle, rods connecting the joints of the corresponding levers, toggle-levers connecting the joints of the respective pairs of levers, a rod connecting the joints of the last-named toggle-levers, a cable encircling the rods and connected to the doubletree, a spring connecting the brake-beam with the rear axle, and means for adjusting the spring.

3. In a wagon-brake, the combination with the front and rear axle, a tongue connected with the front axle, a doubletree slidably mounted on the tongue, means for maintaining the doubletree in its forward position, a brake-beam supported adjacent to the rear axle, toggle-levers connecting the ends of the brake-beam with the rear axle, means for maintaining the toggle-levers normally broken, and means connecting the doubletree and the toggle-levers for extending the same.

4. In a wagon-brake, the combination of the front and rear axle, the tongue connected with the front axle, a doubletree slidably mounted on the tongue, a brake supported adjacent to the rear axle, toggle-levers connecting the brake with the rear axle, means for maintaining the toggle-levers normally broken, and means connecting the doubletree and the toggle-levers for extending the same.

5. In a wagon-brake, the combination with the front and rear axles, the tongue connected with the front axle, a doubletree slidably mounted on the tongue, braking mechanism supported adjacent to the rear axle, toggle-levers connecting the braking mechanism with the rear axle, means for maintaining the toggle-levers normally broken, and means connected with the doubletree for extending the same.

6. In a wagon-brake the combination with the front and rear axles of a doubletree associated with the front axle, braking mechanism, toggle-levers connecting the braking mechanism with the rear axle, means for maintaining the toggle-levers normally broken, and means whereby traction on the doubletree may extend the toggle-levers to relax the brake.

7. In a wagon-brake, the combination with the front and rear axles, a normally operative brake, toggle-levers connecting the brake with the rear axle, and means whereby traction on the doubletree may extend the toggle-levers to relax the brake.

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