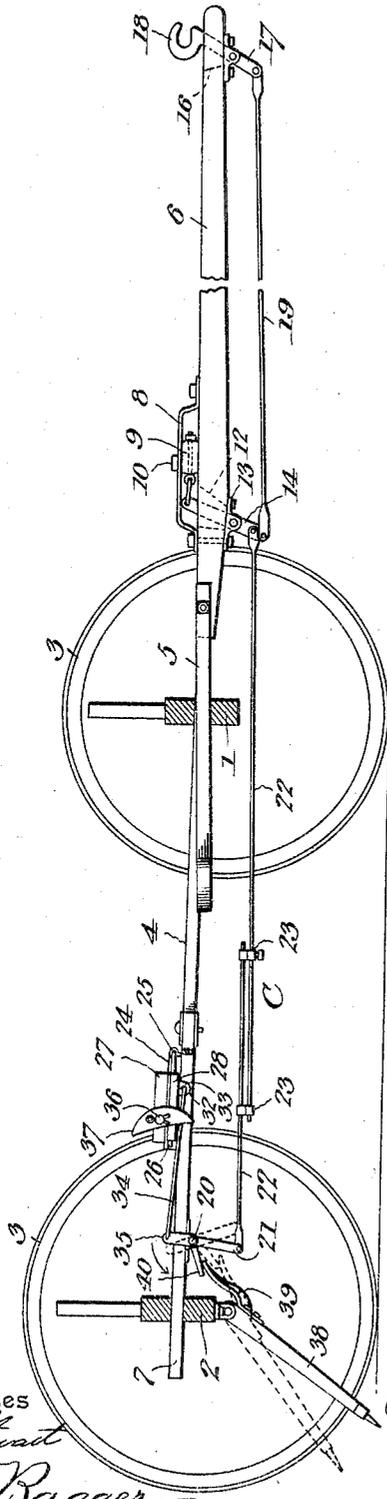


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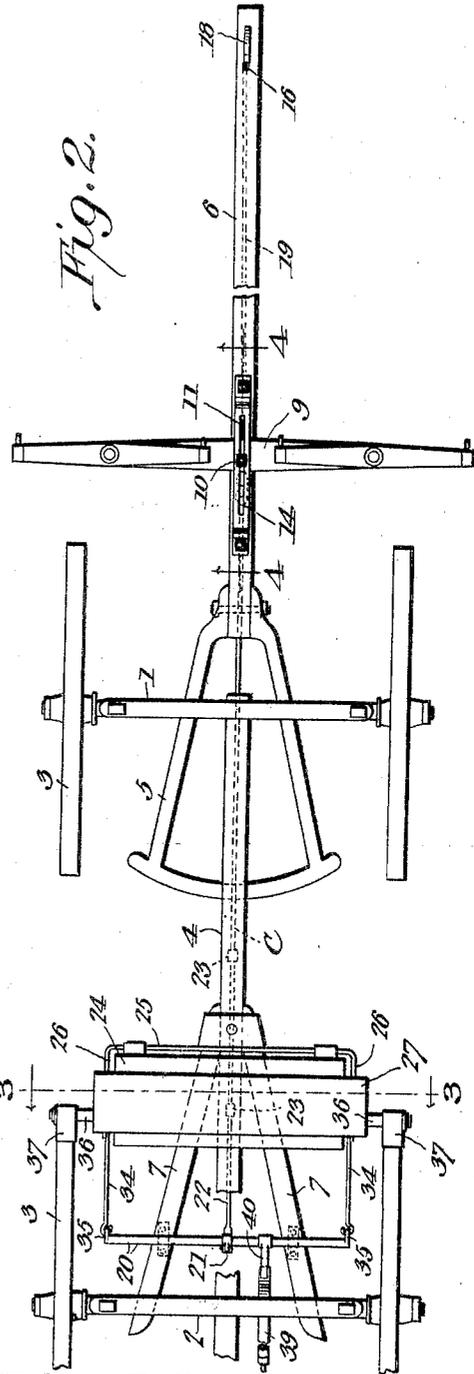
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2 SHEETS—SHEET 1.

*Fig. 1.*



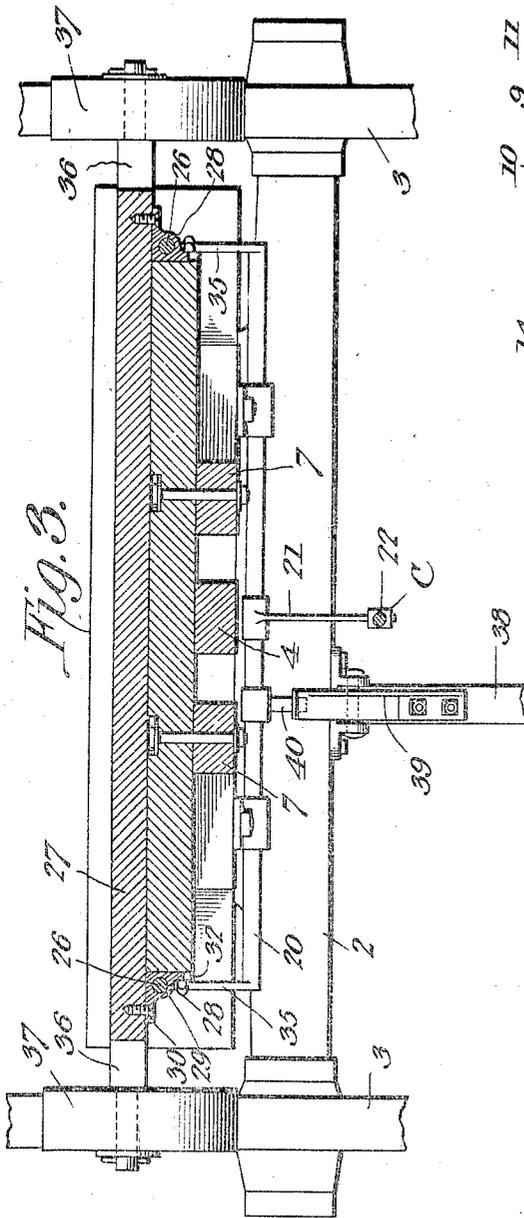
*Fig. 2.*



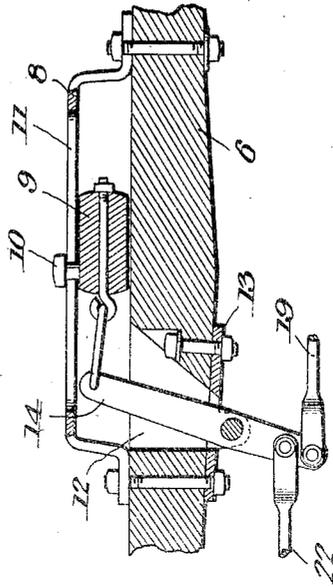
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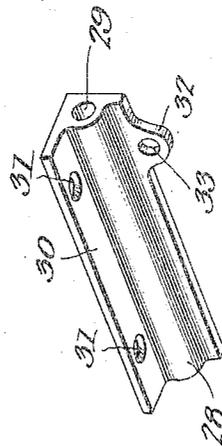
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*Fig. 3.*



*Fig. 4.*



*Fig. 5.*

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# UNITED STATES PATENT OFFICE.

JOHN FLETCHER HAGLER, OF MILTON, IOWA.

## AUTOMATIC WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 789,422, dated May 9, 1905.

Application filed January 19, 1905. Serial No. 241,815.

*To all whom it may concern:*

Be it known that I, JOHN FLETCHER HAGLER, a citizen of the United States, residing at Milton, in the county of Van Buren and State of Iowa, have invented a new and useful Automatic Wagon-Brake, of which the following is a specification.

This invention relates to automatic brakes for wagons; and it has among its objects to simplify and improve the construction and operation of this class of devices.

Another object of the invention is to provide a construction whereby when the running-gear to which the brake is applied is backed by the team the brake-shoes shall be lifted by the action of the wheels to which they are applied to an inoperative or non-engaging position, thus permitting the vehicle to be backed without obstruction on the part of the brake mechanism.

With these and other ends in view, which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of embodiment of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that the right is reserved to any changes, alteration, and modifications to which recourse may be had within the scope of the invention and without departing from the spirit or sacrificing the efficiency of the same.

In said drawings, Figure 1 is a sectional elevation showing a wagon running-gear with the invention applied thereto. Fig. 2 is a top plan view. Fig. 3 is a transverse sectional view, enlarged, taken on the line 3 3 in Fig. 2. Fig. 4 is a vertical longitudinal sectional detail view taken through a portion of the tongue on the line 4 4 in Fig. 2 and enlarged. Fig. 5 is a perspective detail view of one of the guiding members connected with the brake-bar.

Corresponding parts in the several figures

are indicated throughout by similar characters of reference.

In the accompanying drawings the invention has been illustrated as applied to an ordinary vehicle running-gear, of which 1 and 2 represent the front and rear axles; 3 3, the wheels; 4, the reach or coupling-pole; 5, the front hound-frame, with which the tongue 6 is hingedly connected, and 7 7 the rear hounds.

The tongue 6 is provided near its rear end with a hammer-strap 8, in which the double-tree 9 is supported for longitudinal movement, said double-tree being provided with a headed pin 10, working in a slot 11 in the hammer-strap. The tongue is provided with a vertical slot 12, adjacent to the under side of which is supported a clip or bearing-plate 13 for a lever 14, the upper end of which is connected securely with the double-tree 9 by means of a link. At or near the front end of the tongue is another vertical slot, 16, in which is pivoted a lever 17, the upper end of which forms a hook 18, adapted for connection with the neck-yoke of the team. A rod 19 connects the lower ends of the levers 14 and 17, so as to transmit motion from one to the other.

Supported in suitable bearings upon the rear hounds 7 is a rock-shaft 20, having a downward-extending arm 21, which is connected with the lower end of the lever 14 by means of a connecting member C, comprising two rods 22 22, which are connected adjustably by means of clips or couplings 23 in such a manner that the connecting member may be extended or shortened, as may be required, according to the length of the reach or coupling-pole of the running-gear to which the invention is applied.

Securely mounted upon the hounds 7 in advance of the rock-shaft 20 is a block 24, upon the front end of which is supported a rock-shaft 25, having rearward-extending arms 26, one at each end thereof. A brake-bar 27 is supported slidably upon the block 24, and upon the under side of said brake-bar, near each end thereof, is secured a guide member 28, which may be described as consisting of an angular casting having a perforation 29 extending longitudinally therethrough, so that

said casting virtually constitutes a sleeve. Said castings are provided with flanges 30, having apertures 31 for the passage of screws or other fastening means, whereby they are  
 5 secured to the under side of the brake-bar 27, as will be best seen in Fig. 3 of the drawings. Said castings are also provided with downwardly-extending ears or lugs 32, having apertures 33, which are connected, by means of  
 10 hooked connecting-rods 34, with arms 35 at the ends of the rock-shaft 20. The brake-bar 27 is provided at the ends thereof with pintles 36, upon which the brake-shoes 37 are pivotally supported in such a position as to  
 15 be capable of conveniently engaging the rims of the hind wheels 3.

Hingedly connected with the rear axle 2 of the running-gear is a prod 38, which is normally permitted to drag upon the ground in  
 20 rear of the vehicle. When the wagon is traveling uphill, an application of the brake is impossible. Said prod will prevent the vehicle from moving downhill when the team is resting. This prod is provided near its hinged  
 25 end with an arm 39, which is located in the path of an arm 40, extending from the rock-shaft 20, as will be best seen in Figs. 1 and 2. When the rock-shaft turns in the direction indicated by an arrow in Fig. 1, the arm  
 30 40 will impinge upon the arm 39, thus swinging the prod in an upward direction at the free end thereof to a position in which it will be incapable of engaging the ground.

When in operation draft is applied to the  
 35 running-gear through the medium of the doubletree 9, the upper ends of the levers 14 and 17 will move in a forward direction, while the member C, connecting the lower end of the lever 14 with the arm 21 of the rock-shaft 20,  
 40 will so actuate said rock-shaft that the arms 35 and connecting-rods 34 will move the brake-bar in a forward direction, placing the brake-blocks in a non-engaging position. This is the natural effect when the wagon is  
 45 traveling over level ground or uphill. When the vehicle is moving downhill and the team holds back, the strain of the neck-yoke upon the upper hooked end of the lever 17 will be in a rearward direction, said motion being  
 50 transmitted to the lever 14 and from thence to the arm 21 of the rock-shaft 20, which is now oscillated in the direction of the arrow in Fig. 1, thus causing the brake-bar to be moved by the rods 34, connecting the arms  
 55 35 with guide members 28, in a rearward direction, when the brake-blocks will be tightened against the wheels.

When it is desired to back the vehicle, the operation is primarily the same as when the  
 60 vehicle is moving downhill—that is, the brake-blocks will be set against the rims of the hind wheels; but inasmuch as the latter are now rotated in a rearward instead of a forward direction the brake-bar, being connected by the

guide members 28 with the arms 26 of the  
 65 rock-shaft 25, will move in an upward direction upon the fulcrum formed by the rock-shaft 25 to a position approximately indicated in dotted lines in Fig. 1, thus releasing the brake-shoes from the wheels and permitting  
 70 the latter to rotate freely.

It will be observed that each of the operations described in the foregoing is performed automatically at the proper time and without  
 75 necessity of any previous preparation. In addition thereto the prod 28, which serves to sustain the wagon when traveling uphill, is automatically operated by the arm 40 of the rock-shaft 20 whenever the wagon is backed, so that said prod shall not interfere with the  
 80 operation of backing.

The construction of this improved automatic brake attachment is simple and inexpensive, and it may be readily applied to running-gears of ordinary construction.  
 85

Having thus described the invention, what is claimed is—

1. A brake-bar, a rock-shaft having arms slidably supporting said brake-bar, a rock-shaft having radially-extending arms, links  
 90 connecting said arms with the brake-bar, and means for oscillating the brake-actuating rock-shaft.

2. A running-gear, a rock-shaft supported thereon and having arms at the ends thereof,  
 95 a brake-bar supported slidably upon said arms, a rock-shaft having radially-extending arms, links connecting said arms with the brake-bar, and means for operating the brake-actuating rock-shaft including a draft-lever,  
 100 a holdback-lever, and connecting means.

3. A running-gear, a block supported upon the rear hounds, a brake-bar supported slidably upon said block, a rock-shaft journaled  
 105 upon the latter and having arms at the ends thereof, tubular guide members connected with the brake-bar and having slidable engagement with said arms, a brake-actuating rock-shaft having radially-extending arms, links connecting said arms with the tubular  
 110 guide members upon the brake-bar, and means for operating the brake-actuating rock-shaft including a draft-lever, a holdback-lever and connecting means.

4. In a device of the class described, a running-gear, a supporting-block upon the same,  
 115 a brake-bar supported slidably upon said block, tubular guiding members connected with said brake-bar, a rock-shaft having arms engaging said tubular members, a brake-actuating rock-shaft having radially-extending arms, and links connecting the latter with the  
 120 brake-bar.

5. In a device of the class described, a brake-bar, a rock-shaft having arms slidably supporting said brake-bar, an actuating rock-shaft having radially-extending arms, links  
 125 connecting said arms with the brake-bar, a

prod, hingedly supported, and having an arm  
extending in the direction of the brake-ac-  
tuating rock-shaft, an arm extending from the  
latter in the path of the arm extending from  
5 the prod, and operating means for the brake-  
actuating rock-shaft including a draft-lever,  
a holdback-lever and connecting means.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in  
the presence of two witnesses.

JOHN FLETCHER HAGLER.

Witnesses:

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AMOS A. CARNINE.