R. ANLIKER.

AUTOMATIC WAGON BRAKE.

APPLICATION FILED MAR. 9, 1910.

985,121.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 1.

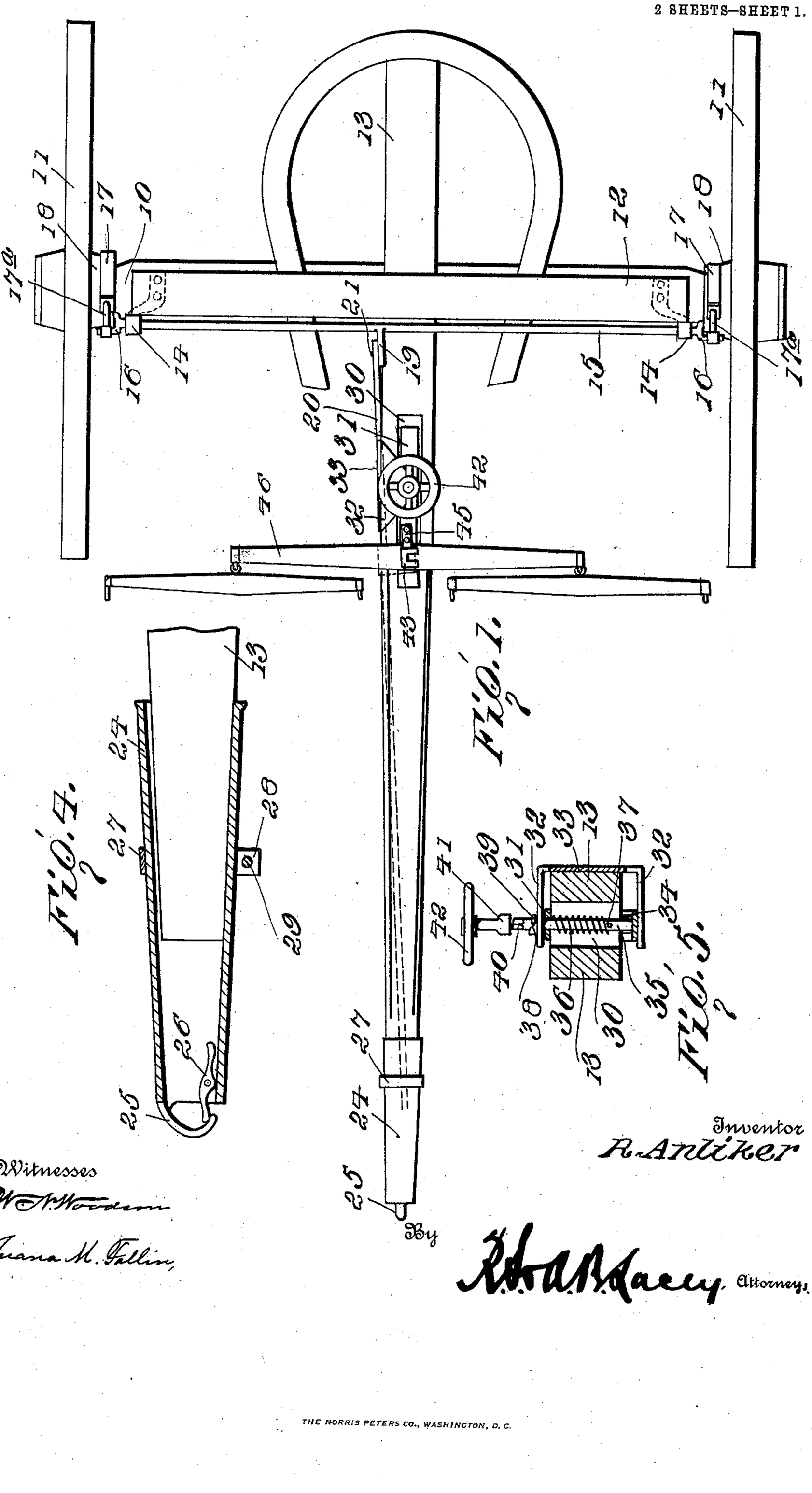

FIG. 1.

FIG. 4.

FIG. 5.

Witnesses

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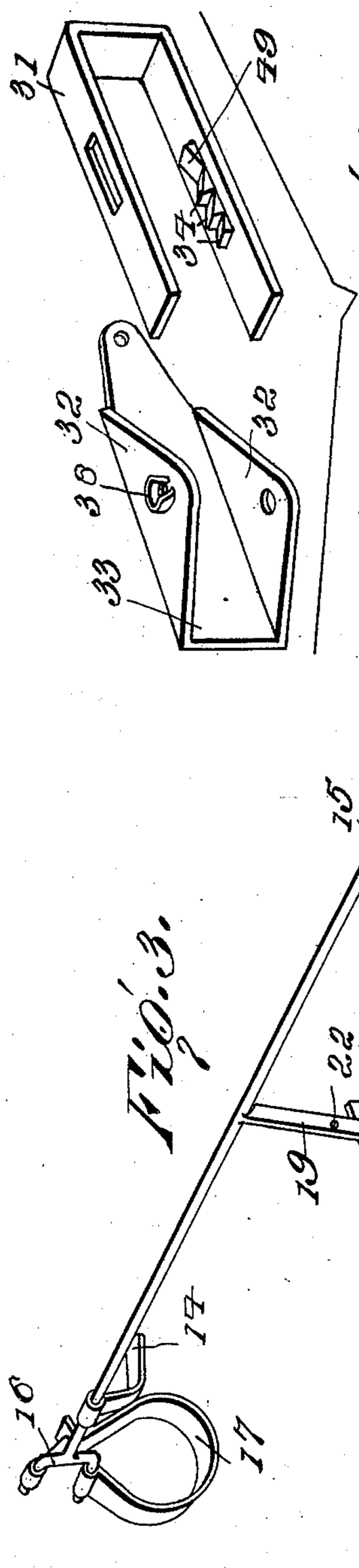

FIG. 1.

FIG. 2.

FIG. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT ANLIKER, OF PIERRE, SOUTH DAKOTA.

AUTOMATIC WAGON-BRAKE.

985,121. Specification of Letters Patent. **Patented Feb. 28, 1911.**

Application filed March 9, 1910. Serial No. 548,240.

To all whom it may concern:

Be it known that I, ROBERT ANLIKER, citizen of the United States, residing at Pierre, in the county of Hughes and State of South Dakota, have invented certain new and useful Improvements in Automatic Wagon-Brakes, of which the following is a specification.

This invention relates to wagon brakes and refers particularly to such devices which are automatic in operation.

An object of the invention is to form a brake of this nature which is applicable to wagons of common construction without the necessity of effecting any change in the formation of the wagon, but which may be secured directly upon the running gear thereof.

Another object of this invention is to form a brake adapted for connection to the neck yoke of the draft animals, and to provide a brake which is dependent for its operation upon the movement of the draft animals.

This invention further contemplates the provision of a latch mechanism in conjunction with the brake whereby the brake may be retained in an applied position, or may be secured against operation, this latter feature being desirable when backing the wagon.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a top plan view of the forward end of a wagon running gear having the improved brake applied thereto. Fig. 2 is a longitudinal section through the same. Fig. 3 is a detail view of the brake shaft and attachments thereto. Fig. 4 is a sectional view through the operating sleeve positioned on the forward end of the tongue. Fig. 5 is a detail view of the latch-bolt, and attachments thereto. Fig. 6 is a detail view of the draw-bar and its connection to the brake-rod. Fig. 7 is a detail perspective view of the locking strap and the latch-bolt retaining plate in detached relation.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawings by the same reference characters.

Referring to the drawings the numeral 10 designates an axle having wheels 11 mounted upon the opposite ends thereof in the usual manner. The axle 10 is provided with a bolster 12 which is arranged upon the upper face thereof in longitudinal alinement with the same, and serves to retain the tongue 13 across the central portion of the axle 10. The axle 10 is provided with a pair of brackets 14 which are secured adjacent the ends of the axle 10 and upon the upper face of the same. The brackets 14 are curved outwardly and upwardly at their forward ends to support a brake shaft 15 across the forward edge of the bolster 12. The shaft 15 is provided at its opposite extremities with fork-arms 16 to which are secured the opposite extremities of brake-bands 17. The brake-bands 17 are provided at one end with an adjusting bolt 17ª to adapt the bands 17 to hubs varying in diameter. The shaft 15 terminates at its opposite ends adjacent the inner extremities of the hubs of the wheels 11, and the shaft thereby supports the brake-bands 17 in alinement with metallic drums 18 which are secured over the inner ends of the hubs. The shaft 15 is provided with a depending arm 19 at its central portion which passes downwardly at one side of the tongue 13 and normally rests in a forwardly inclined angle to space the lower end thereof from the axle 10. A brake-rod 20 is adjustably connected at its rear end to the lower extremity of the arm 19 through the medium of a bolt 21 which is passed through openings 22 and 23 which are formed in the arm 19 and rod 20 respectively, when the apertures are registered. The rod 20 extends forwardly beneath the tongue 13 and is loosely supported in such position by cleats 20ª depending from the tongue 13. The forward end of the tongue 13 is provided with a sleeve 24 which is slightly reduced at its forward end and provided with a hook 25 which is curved outwardly and downwardly from the upper side of the sleeve 24. A spring-arm 26 is mounted in the forward end of the sleeve and extends outwardly therefrom to engage against the lower end of the hook 25. The sleeve 24 carries a collar 27 which is in the form of a strip of spring metal having depending ears 28 to receive the forward extremity of the brake-rod 20 and a transverse bolt 29. The bolt 29 serves the double function of adjustably securing the brake-rod 20 to the collar 27 and of clamping the collar 27 adjustably upon the sleeve 24.

The tongue 13 is provided with a longitu-

dinal slot 30 which extends entirely through the same, terminating in the upper and lower faces thereof and is located at a point forwardly of the axle 10. Within the slot 30 a locking strap 31 is positioned which is in the form of a strip of metal bent U-shape and having its arms spaced apart slightly greater than the thickness of the tongue 13 to engage the outer faces of the arms thereof against the inner sides of retaining flanges 32. The flanges 32 are formed upon the opposite edges of a plate 33 which is secured against the side of the tongue 13 so as to engage the flanges 32 against the upper and lower faces of the tongue. The lower arm of the locking strap 31 is provided with a series of teeth 34 having their shoulders formed outwardly to engage with the lower end of a latch-bolt 35 which is carried through the flanges 32 within the slot 30. The latch-bolt 35 is provided with a spring 36 having its upper end engaging against the under side of the upper arm of the locking strap 31, while its lower end is held against a pin 37 secured through the latch-bolt 35 adjacent its lower end. The upper arm of the locking strap 31 is longitudinally slotted to admit of the reciprocation of the locking strap between the flanges 32 and about the latch-bolt 35. The upper flange 32 is suitably apertured to receive the bolt 35 therethrough and carries a cam 38 upon its upper face and about the aperture to coöperate with a pin 39 to retract the bolt 35 upon the teeth 34. The pin 39 is secured through the upper end of the latch-bolt 35 and rides over the inclined face of the cam. An angular head 40 is formed upon the upper end of the bolt 35 to receive thereover a correspondingly formed socket 41 which is carried by a hand-wheel 42. Through the forward end of the slot 30 a draw-bolt 43 is positioned which extends downwardly through the forward ends of the locking strap 31 and is connected to the brake-rod 20 through the medium of a clamp 44. The upper arm of the locking strap 31 carries a spaced arm 45 beneath which is pivotally disposed a whiffletree 46 for drawing the vehicle. The clamp 44 comprises a strip of metal which is overlapped upon itself and looped at one end to bind about the brake-rod, the free ends of the clamp being secured together through the medium of a bolt 47. The draw-bolt 43 is passed downwardly through the free ends of the clamp 44 and is secured loosely in such position through the medium of a nut 48.

In the use of the brake the neck yokes of the animals are secured to the hook 25, whereupon the backward movement of the draft animals effects the sliding of the sleeve 24 backwardly over the forward end of the tongue 13. This movement is communicated through the brake-rod 20 to the arm 19 to rotate the shaft 14 and to turn the fork-arms 16. The movement of the fork-arm 16 contracts the bands 17 about the metallic drums 18 of the wheels 11, whereby the braking action is effected. When the brake is thus applied the brake-rod 20 forces the draw-bolt 43 into a backward position as the same is connected to the rod 20 by a clamp 44. The locking strap 31 is likewise moved backwardly in the slot 30 under the action of the draw-bolt 43. Should the pin 39 be released from the cam 38 the latch-bolt 35 rides over the inclined portions of the teeth 34 and is depressed into the throats of the teeth to engage against the forward shoulders thereof and lock the strap 31 from forward movement. The brake is thus automatically locked and can only be released by raising the latch-bolt 35 from engagement with the teeth 34. To release the brake, the socket 41 is positioned over the angular head 40 and the hand wheel 42 is rotated to engage the pin 39 upon the cam 38. The bolt 35 is raised during this action and the locking strap 31 is permitted to move forwardly. Should it be desired to back the wagon without applying the brake thereto, the pin 39 is disengaged from the cam 38, and the draft animals are moved forwardly and suddenly to draw the locking strap 31 forwardly through the slot 30 to bring the shoulder of the rear tooth 49 beneath the latch-bolt 35. The latch-bolt 35 now snaps into position under the action of the spring 36 and prevents the backward movement of the strap 31. As the wagon is now moved backwardly, the brake-rod 20 is held from movement and can only be released upon the raising of the latch-bolt 35.

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

1. A wagon brake including a brake-shaft for engagement across the front of a wagon axle, means carried by the brake-shaft to effect the braking action of the wheels of the axle, a brake-rod connected to the brake-shaft to rotate the same, a sleeve adjustably carried upon the outer end of the brake-rod for loose engagement over the forward end of the tongue of the wagon, a draw-bar carried by the tongue and connected to said brake-rod to move therewith, a locking strap engaging through the tongue and connected to said draw-bar, and a latch-bolt carried by the tongue adapted for engagement with said locking strap to secure said brake-rod from movement.

2. A wagon brake including a tongue, a shaft disposed across the inner end of the tongue, braking means carried by the shaft, an arm extending from the shaft for rocking the same, a brake rod attached to the arm to move the same, a sleeve engaging over the outer end of the tongue and being

adjustably connected to the outer end of the brake rod, a draw-bar carried by the brake rod and projecting through the tongue, a locking strap carried by the draw-bar and extending through the tongue, the draw-bar having a plurality of teeth formed in its lower portion beneath the tongue and a latch-bolt extending through the locking strap and the tongue to adjustably secure the draw-bar in position relative to the tongue.

3. In combination with an axle having wheels upon its opposite ends and a forwardly projecting tongue, a brake-shaft supported across the forward edge of the axle and having an independent rocker arm adjacent the tongue, brake-bands carried upon the ends of the shaft, drums mounted on the wheels and engaging in the brake-bands, a reciprocating brake-rod arranged beneath the tongue and connected at its inner end to the rocker arm, a sleeve slidably engaging over the tongue and adjustably connected to said brake-rod, a locking strap carried through the tongue, a draw-bolt engaging through the locking strap and secured to the brake-rod, said locking strap having ratchet teeth formed upon its inner face, and a latch-bolt carried by the tongue and engaging with the ratchet teeth to lock the brake-rod from movement.

4. In combination with an axle having wheels upon its extremities and a tongue extending from the central portion thereof, supporting brackets upwardly diverging from the ends of the axle, a brake shaft journaled through the brackets and having fork arms upon its extremities, brake bands engaging about the hubs of the wheels and secured at their extremities upon the fork arms, a rocker arm depending from the shaft against the side of the tongue, a brake-rod slidably supported beneath the tongue and connected to the lower end of the rocker arm, a sleeve slidably disposed over the forward end of the tongue and connected to the brake-rod and having a forwardly projecting hook, a spring arm carried in the sleeve and yieldably engaging the end of the hook to close the same, a locking strap engaging through the tongue, a draw bolt carried through the locking strap and rigidly connected to said brake-rod, and a locking mechanism located on the tongue for coöperation with the locking strap to retain the brake-rod from movement.

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

ROBERT ANLIKER. [L. S.]

Witnesses:
J. W. LAUGHLIN,
H. E. CUTTING.