

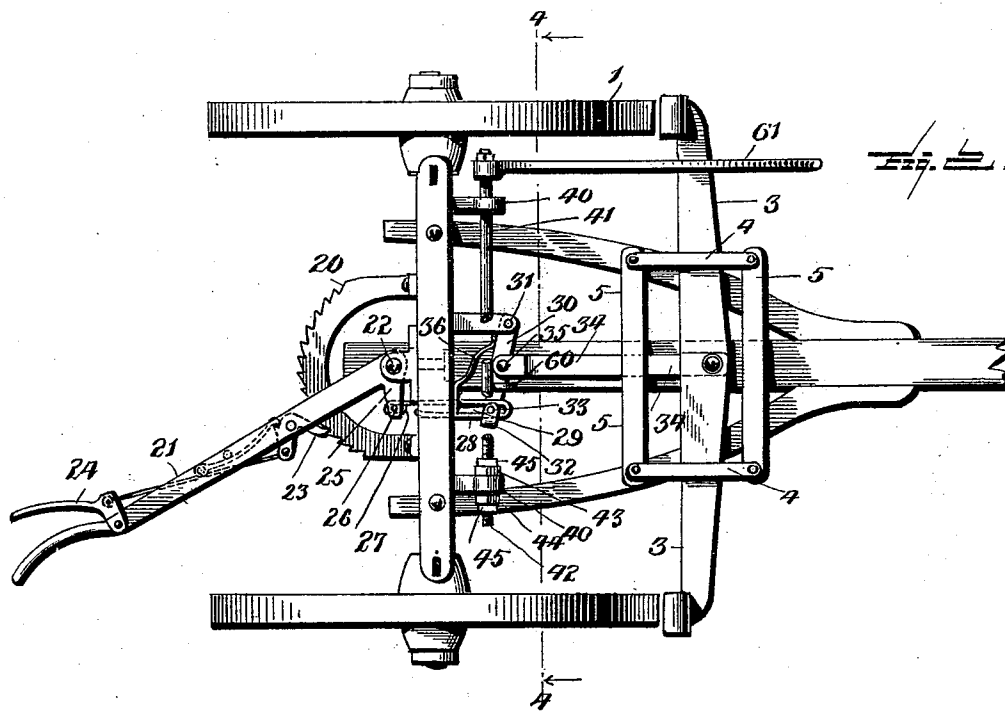
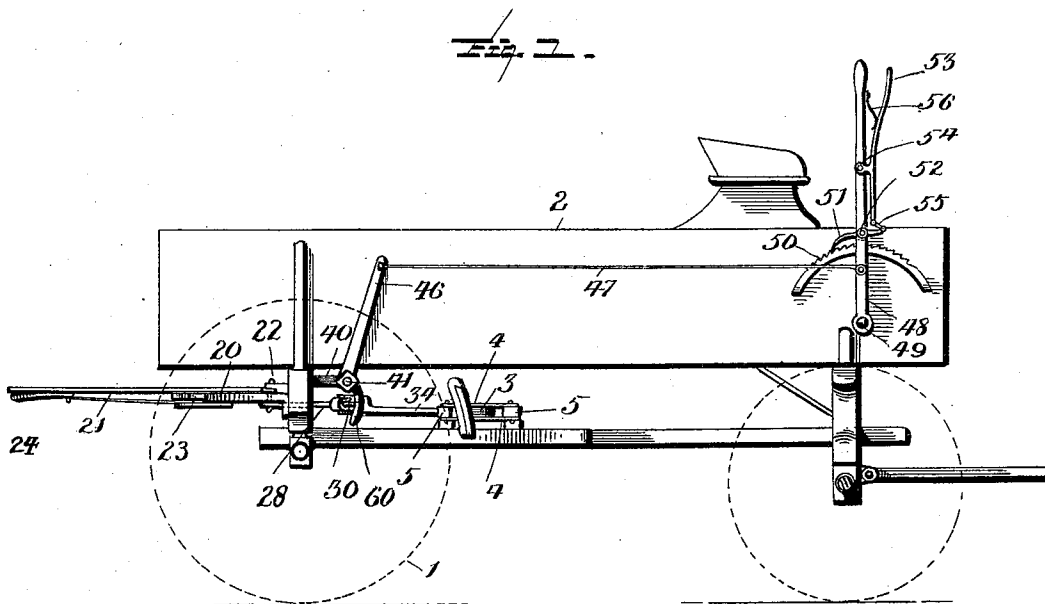
(No Model.)

2 Sheets—Sheet 1.

J. JACOBS.
WAGON BRAKE.

No. 520,849.

Patented June 5, 1894.



Witnesses:
L. C. Mills
Helena Bauer

Inventor:
Jonathan Jacobs,
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Attorneys

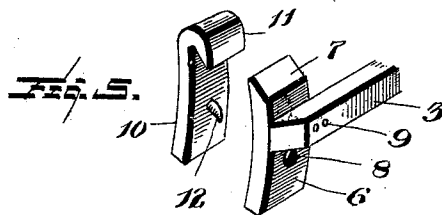
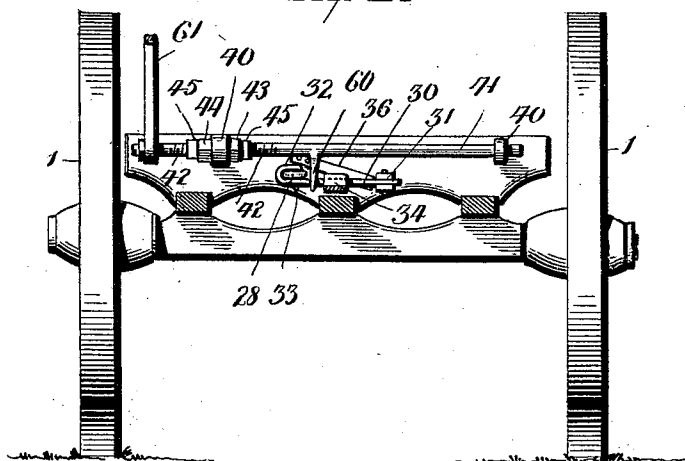
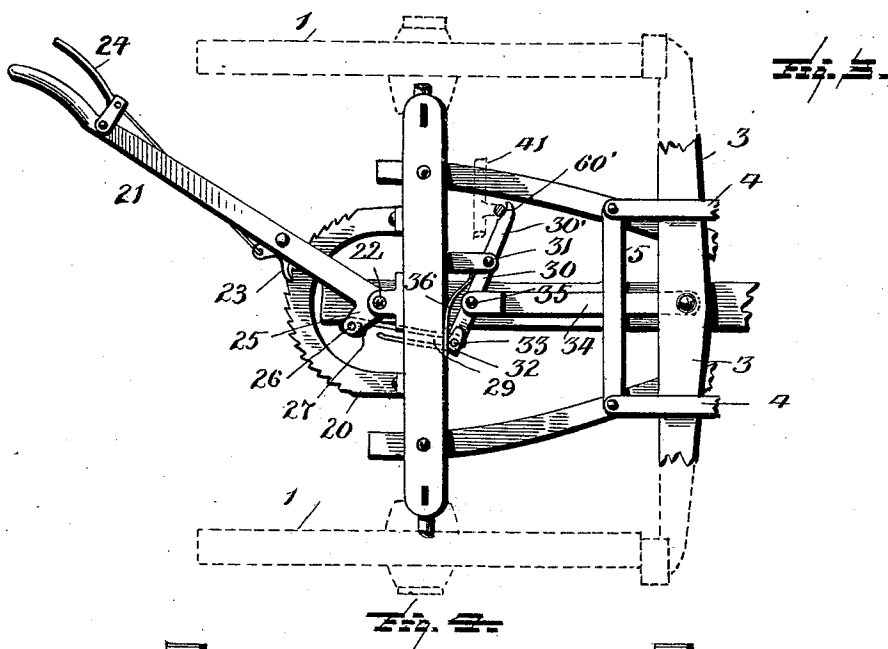
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2 Sheets—Sheet 2.

J. JACOBS.
WAGON BRAKE.

No. 520,849.

Patented June 5, 1894.



Witnesses:
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Helena Baner

Inventor:
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UNITED STATES PATENT OFFICE.

JONATHAN JACOBS, OF BROWNSVILLE, MARYLAND, ASSIGNOR OF ONE-HALF TO WILLIAM H. BROADHURST, OF SAME PLACE.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 520,849, dated June 5, 1894.

Application filed February 15, 1894. Serial No. 500,232. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN JACOBS, a citizen of the United States, and a resident of Brownsville, Montgomery county, State of Maryland, have invented certain new and useful Improvements in Wagon-Brakes; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to wagons, and more especially to the brakes employed thereon; and the object of the same is to effect certain improvements in devices of this character.

To this end the invention consists in the specific construction of the brake-operating mechanism hereinafter more fully described and claimed, and illustrated in the accompanying drawings, wherein—

Figure 1 is an elevation of the right side of a box wagon showing my improved brake as attached thereto. Fig. 2 is a plan view of the rear bolster and hounds showing the brake as released and showing certain modifications.

Fig. 3 is a plan view of the rear hand-lever and rack, the rock-lever here being illustrated in slightly modified form as continued past its pivot, the spring, and the pitman—showing the parts in position to apply the brake.

Fig. 4 is a cross section on the line 4—4 of Fig. 2 showing the rock-shaft and its manner of longitudinal adjustment. Fig. 5 is a perspective detail of the brake shoe.

In the said drawings, the numerals 1 designate the wheels mounted on axles and connected by a perch having the usual hounds and bolsters, and 2 is the wagon body mounted on the latter.

3 is the brake beam here shown as sliding between guides 4 connecting the ends of cross bars 5 supported by the rear hounds, and carrying at its ends brake shoes of the construction best seen in Fig. 5. These shoes may be of any desired construction, but my preferred manner of forming them is to make each of an upright plate 6 having a beveled upper end 7 and a hole 8 through its body—the plate being secured between its ends as at 9 to the end of the brake beam. This plate may be of cast iron, and the shoe proper, 10, is preferably formed of wrought iron and is

shaped to conform with the rear face of the plate 6—having a lip 11 at its upper end which passes over and removably engages the bevel 7 at the upper end of the plate, and a hook 12 projecting to the rear from its body and adapted to be passed through the hole 8 and then downward therein as the lip 11 is passed over the bevel. The shank of the hook prevents lateral movement and also prevents the shoe from rising unless it is withdrawn obliquely from the plate 6, and the lip 11 by engaging the bevel 7 further prevents a downward movement of the shoe and therefore resists the downward movement of the front slide of the rear wheel which takes place when the brake is applied.

20 is a semi-circular toothed rack carried by and projecting to the rear of the rearmost bolster, and 21 is a hand-lever pivoted at 22 to this bolster at the center of said rack and carrying a spring-actuated pawl 23 engaging the teeth on the rack and operated by a thumb lever 24 in the usual manner. From the pivotal end of the lever 21 an arm 25 projects laterally from the lever and carries a pin 26 to which is pivoted an eye 27 at the rear end of a link 28 which passes loosely through the rear bolster and has a slot 29 in its front end.

30 is a rock-lever suitably pivoted to an eye-bolt 31 projecting forward from the rear bolster and having one end turned over upon itself as at 32 with an upright bolt 33 passed through this end and the body of the lever and intermediately through the slot 29 in the link; and 34 is a pitman rod pivotally connecting the center of the brake beam 3 with this lever 30 at a point 35 between the upright bolt 33 and the pivot at the eye-bolt 31. A spring 36 secured to a suitable support (such as the bolster) presses the rock-lever 30 forward and normally throws the brake shoes off the wheels. By this construction it will be seen that when the "helper" who usually attends the driver of a hay wagon or a wagon carrying other heavy load, is walking behind the wagon as when the latter is going down a hill, he can manipulate the rear lever to draw on the link which will turn the rock-lever around the eye-bolt and draw on the pitman to apply the brake with a power greater than that exerted by the rear lever; and by operating

the thumb-lever and reversing the motion of the rear lever, he can take off the brake. The brake beam slides between the guides 4 which prevent its rise and fall as will be understood, and the spring throws the shoes normally away from the wheels.

40 40 are two eye-bolts carried by the rear bolster in a horizontal plane above the mechanism just described, and 41 is a rock-shaft journaled in these eye-bolts and standing across the running gear beneath the wagon body 2. Where it passes through one of the eye-bolts this rock-shaft has threads 42 carrying nuts 43 and 44 outside of which may be located jam nuts 45; and by unscrewing the nut 43 and screwing up the nut 44, and then setting them with their jam nuts 45, it will be seen that the rock-shaft can be adjusted longitudinally through its journals in the eye-bolts for a purpose to appear below. On one end of the rock-shaft 41 (preferably the right end as shown in Fig. 1) is a crank 46 connected by a rod 47 standing alongside the wagon body 2 with a front lever 48 which is pivoted at 49 at the center of a curved rack 50 carrying ratchet teeth, and which lever 48 stands adjacent the driver's seat. By continuing this lever below its pivot 49 and connecting the rod 47 with its lower end, the direction of operative motion of the lever can be reversed in a manner which will be clear to any mechanic.

51 is a pawl pivoted between its ends at 52 to the lever 48 and with its rear end taking into the teeth of the rack 50.

53 is a thumb lever pivoted between its ends at 54 to the body of the lever 48 and connected at its lower end by a link 55 with the front end of the pawl, and 56 is a spring bearing the upper end of the thumb lever 53 normally forward and away from the lever 48.

By the construction shown a forward movement of the lever 48 draws on the rod 47 and through the crank 46 turns the rock-shaft 41, and applies the brake in a manner described below, while the pawl 51 travels over the teeth and engages them at a point to hold the brake applied. To release the brake, the operator presses the upper end of the thumb lever 53 which causes its lower end to move forward, and by means of the link 55 depresses the front end of the pawl 51 and raises its rear end out of the teeth of the rack 50—after which the lever 48 can be moved as desired. I consider this specific construction of front lever especially applicable to a device of this character, because the exact connection by means of the link 55 between the thumb lever and pawl causes the latter to be tripped very quickly when the former is moved and hence permits the brake to be released suddenly as is sometimes necessary.

Depending from the rock-shaft 41 is a finger 60 standing in front of the free end of the rock-lever 30 as indicated in Fig. 1, and hence when the front lever 48 is operated and the rock-shaft turns in the eye-bolts 40, this fin-

ger bears against the rock-lever 30 and turns the same around its pivot in the eye-bolt 31 so as to draw on the pitman 34 and apply the brake. This motion, however, does not interfere with the rear lever, because as the rock-lever moves the upright bolt or pin 33 at its free end slides to the rear in the slot 29 of the link 28, and hence does not move the link nor the rear lever. In the same way, the rear lever can be moved to apply the brake without turning the rock-shaft or moving the front lever, because the action of the rear lever merely draws the rock-lever 30 away from the finger 60.

In Fig. 2 I have shown the rock-shaft 41 as continued to the left side of the wagon, and carrying a side lever 61 at this side, although it will be understood that such lever could stand at the other side of the wagon, that the crank and front lever could be located at the left side of the wagon, that the side lever could be at one side and the front lever at the other, or that the side lever could form the crank and the front lever could be located on the same side of the wagon.

In Fig. 3 I have shown the rock-lever 30 as continued at 30' past its pivot in the eye-bolt 31, and here the finger 60' depends from the rock-shaft and stands in rear of this arm 30' of the rock-lever instead of standing in front of the other arm. This is a preferred construction which I employ in certain cases.

In either construction it will be obvious that by adjusting the nuts 43 and 44 on the rock-shaft the finger will be moved laterally of the wagon toward or from the pivot 31, and hence the force applied to the brake by the side or front lever can be regulated at will.

All parts of this structure are of the desired sizes, shapes, proportions, and materials, and considerable change in and addition to the specific details of construction may be made without departing from the principle of my invention.

What is claimed as new is—

1. In a wagon brake, the combination with a curved rack bar projecting rearward from the rear bolster, a lever moving thereover and having an arm projecting at an angle from its pivot, a link sliding through the bolster and having an eye at its rear end pivoted to said arm and a slot at its front end, an eye-bolt in the front of the bolster, and a rock lever pivoted to said eye-bolt and having one end bent back upon itself and carrying an upright bolt moving in said slot of the link and connecting the body of the rock lever with the bent-over end; of a brake beam having brake shoes at its extremities, a pitman connecting the beam with the rock lever, and a spring carried by the rear bolster and bearing said rock lever normally forward, as and for the purpose set forth.

2. In a wagon brake, the combination with a curved rack bar projecting rearward from the rear bolster, a lever moving thereover and having an arm projecting at an angle from its

pivot, a link sliding through the bolster and having an eye at its rear end pivoted to said arm and a slot at its front end, an eye-bolt in the front of the bolster, and a rock lever pivoted to said eye-bolt and having an upright bolt moving in said slot of the link; of cross bars carried by the rear hounds and connected at their ends by guides, a brake beam moving between said bars and guides and carrying brake shoes, a pitman connecting the beam with the rock lever, and a spring throwing the shoes normally away from the wheels, as and for the purpose set forth.

3. In a wagon brake, the combination with an eye-bolt in the rear bolster, a rock lever pivoted thereto and having an upright bolt at one end, a rear lever, a link connected with the rear lever and having a slot loosely engaging said upright bolt, a brake beam, and a pitman connecting the brake beam with the rock lever between the pivot and bolt of the latter; of a rock shaft journaled in bearings above said rock lever, means for operating the rock shaft independently of the rear lever, and a finger depending from said shaft and engaging said lever, as and for the purpose set forth.

4. In a wagon brake, the combination with an eye-bolt in the rear bolster, a rock lever pivoted thereto and having an upright bolt at one end, a rear lever, a link connected with the rear lever and having a slot loosely engaging said upright bolt, a brake beam, and a pitman connecting the brake beam with the rock lever between the pivot and bolt of the latter; of eye-bolts carried by said bolster, a rock-shaft journaled in the eyes in a plane above the rock lever, said shaft having threads adjacent one eye-bolt, nuts on the threads at

each side of the eye-bolt, means for operating the rock shaft independent of the rear lever, and a finger on said shaft engaging the rock lever, as and for the purpose set forth.

5. In a wagon brake, the combination with an eye-bolt projecting forward from the rear bolster, a rock lever centrally pivoted in said eye-bolt, a rear lever, and a link connecting this lever with one end of the rock lever; of a brake beam, a pitman connecting the beam with the rock lever between the eye-bolt and the point of attachment of said link, a rock-shaft journaled in bearings above said rock lever, means for operating this shaft independent of the rear lever, and a finger depending from said shaft and standing in rear of the rock lever on the other side of the eye-bolt than the point of attachment of said pitman, as and for the purpose set forth.

6. In a wagon brake, the combination with a rock lever pivotally connected with the rear bolster, a brake beam connected with said rock lever, and a rear lever for operating the rock lever to apply the brake; of a rock shaft standing adjacent the rock lever and having a finger adapted to engage the same, a crank on one end of said shaft, a front lever pivoted within a toothed rack carried by the wagon body, a rod connecting said front lever and crank, and a thumb lever and pawl carried by the front lever, as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my signature on this the 13th day of February, A. D. 1894.

JONATHAN JACOBS.

Witnesses:

WILLIAM H. BROADHURST,
LITTLETON E. PRICE.