No. 654,422. Patented July 24, 1900.

W. B. STOVER.

WAGON BRAKE.

(Application filed May 23, 1900.)

(No Model.)

Fig. 1.

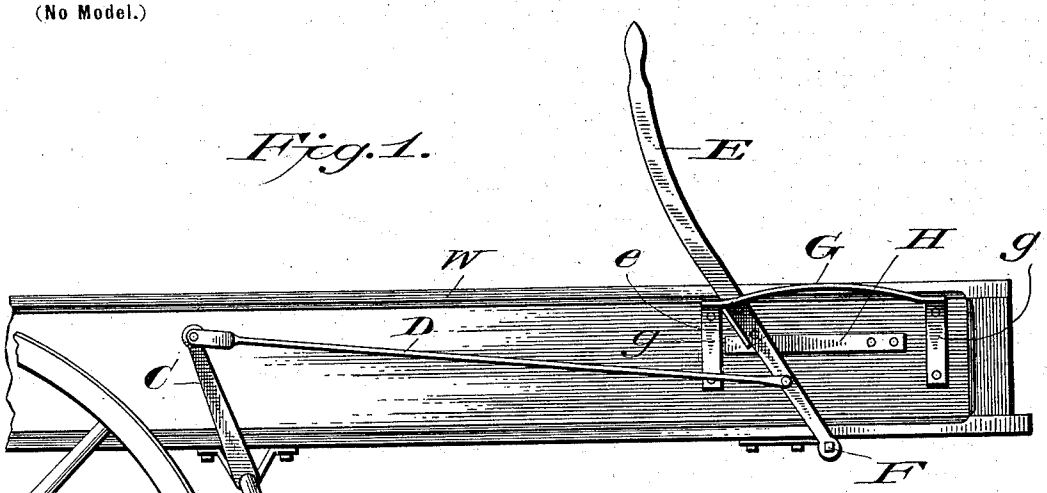


Fig. 2.

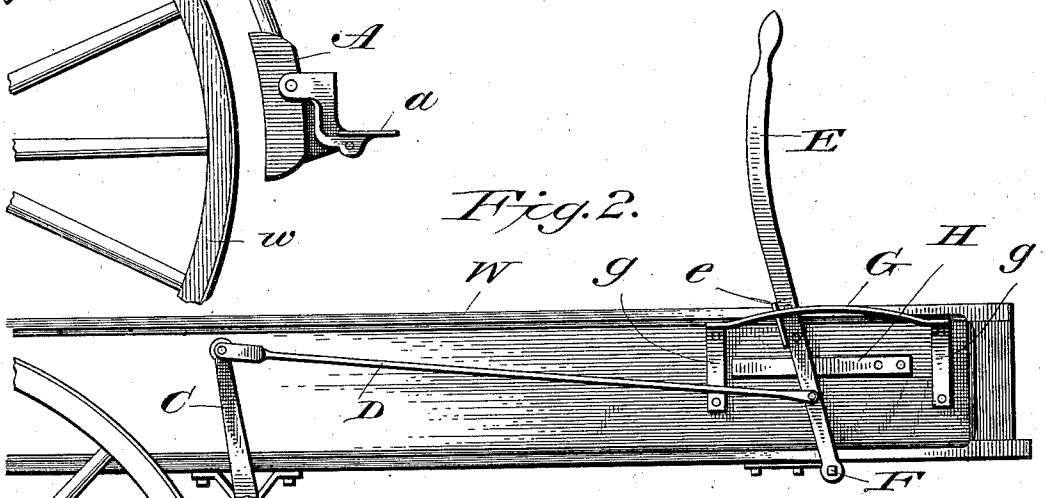


Fig. 3.

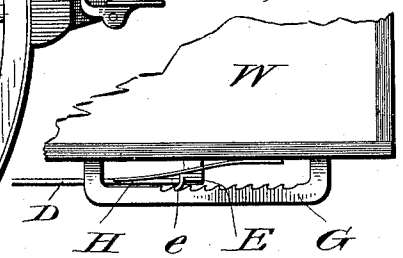
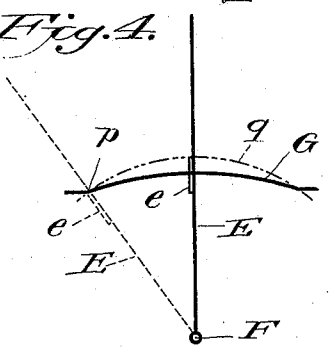


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM B. STOVER, OF SOUTH BEND, INDIANA.

WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 654,422, dated July 24, 1900.

Application filed May 23, 1900. Serial No. 17,716. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. STOVER, of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Wagon-Brakes; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is an improvement in wagon-brakes.

The brake is particularly designed for use with wagon-brakes where the brake-shoe is used as or supplied with a step; and its object is to so construct the apparatus that the brake will be automatically locked when out of engagement with the wheel and cannot be thrown forward against the wheel by the weight of a person stepping on the brake-shoe unless the brake-lever is itself operated.

Another advantage of the invention is that when the brake is thrown off the parts will be locked, so as to prevent displacement and rattling, which is a common source of annoyance in the ordinary construction of brakes. The step is attached to the brake-shoe, which is a convenient support for it; but the brake is operated entirely by the brake-lever.

The invention is summarized in the claims hereto appended, and the accompanying drawings illustrate a simple embodiment of the invention.

Referring to said drawings, Figure 1 is a detail side elevation of a wagon with my brake applied thereto, showing the brake locked in open or released position. Fig. 2 is a similar view showing the parts locked in position when the brake is applied. Fig. 3 is a top plan view of the brake-lever and its locking mechanism. Fig. 4 is a diagrammatic view of these parts, showing the brake-lever in dotted lines locked in position to hold the brake released and in full lines locked in position to apply the brake.

The brake-shoes A are mounted, as usual, on the cranked ends of a transverse rod B, journaled in suitable bearings attached to the bottom of the body W and provided with a crank C, the upper end of which is connected by a rod D to the brake-lever E, near the lower end thereof, said lever being pivoted on the wagon-body at F and provided with a laterally-projecting tooth *e*, which is adapted to engage with the ratchet-teeth of the combined guard and sector G, which is secured to the body in the usual manner, as shown at *g*. The sector G is curved on an arc greater than that which is struck by the upper edge of the tooth *e* swinging on the center F, as indicated in Fig. 4. Consequently when the lever E is swung backward beyond the point indicated at P, Fig. 4, it will pass below the level of the sector G, and in this position the lever E is moved outward by the action of a spring H, attached to the body W, as shown, and in such position forward movement of lever E will be prevented, because the upper edge of tooth *e* will then bind under the sector G, as indicated in Figs. 1 and 4, and lock the lever E, and brake-shoe A will be held out of contact with the rear wheel *w*, and although weight may be then applied to the step *a*, attached to the shoe, it will not apply the brake.

In Fig. 4 the dotted line *q* indicates the arc through which the upper edge of tooth *e* swings as the lever E is operated. It will be seen that it is of less radius than the arc of curvature of the sector, and it is evident that as lever E is thrown backward when it reaches the point P the upper edge of the tooth *e* will pass below the curve of the sector, and spring H (which continually forces the lever E away from the body) will then throw the upper edge of tooth *e* under the sector, and the tooth will come in contact with the under surface of the sector and be firmly held against that surface.

To apply the brake, the lever E is first pulled in toward the body, thereby drawing tooth *e* from under the sector, and is then thrown ahead, raising the tooth *e* above the sector and bringing it in engagement with the teeth thereof successively as the lever is pushed forward.

The spring H continually forces the lever away from the body and against the sector, and its effect will be to keep the lever E locked thereto both when the brake-shoe is thrown out of engagement with the wheel and when it is thrown into engagement therewith. It is evident that when the brake is thrown

off, as indicated in Fig. 1, a person may step freely upon the brake-shoe without throwing the lever E ahead, as the shoe will be held firmly in its disengaged position whether weight is upon it or not. In this manner a very simple but effective automatic device for locking the brake either in applied or released position is obtained.

Having thus described my invention, what I therefore claim as new is—

1. In a brake mechanism, the combination of the brake-operating lever provided with a tooth swinging on the arc of a circle; and a toothed sector curved on an arc of greater radius than the arc traversed by the tooth; said tooth being adapted to engage the teeth of the sector to lock the lever when the brake is applied, and said tooth swinging under the sector and engaging the under side thereof when the brake is released, to hold the brake in unlocked position.

2. In brake mechanism, the combination of the operating-lever having a tooth; with the curved sector having teeth with which the lever-tooth engages when the brake is applied, and with the under side of which the said tooth engages when the brake is released, whereby the brake is held in locked or unlocked position, substantially as described.

3. In a brake mechanism, the combination of the operating-lever having a tooth, and a curved sector having teeth with which the lever-tooth engages when the brake is applied, and with the under side of which the said tooth engages when the brake is released; with the brake mechanism operated by said lever, and a spring adapted to force the lever laterally toward the sector, substantially as described.

4. In a brake mechanism for wagons, the combination of the brake-operating lever provided with a tooth swinging on the arc of a circle, and a toothed sector curved on an arc of greater radius than the arc traversed by the tooth, said tooth being adapted to engage the teeth of the sector to lock the lever when the brake is applied and said tooth swinging under the sector and engaging the under side thereof when the brake is released, to hold the brake in unlocked position; with the brake mechanism actuated by said lever and the spring for forcing said lever outward against the sector.

5. In a wagon-brake, the combination of the brake-shoe, the rocking shaft carrying said shoe, the crank-arm on said shaft, the operating-lever, and the rod connecting said crank-arm to said lever, and a tooth on said lever; with the locking-sector curved on an arc of greater radius than the arc traversed by the lever on said tooth and the spring forcing said lever laterally outward against the sector, said tooth engaging the teeth of the sector to lock the lever when the brake is applied and said tooth swinging under the sector and engaging the under side thereof to lock the lever when the brake is released.

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

WILLIAM B. STOVER.

In presence of—
GEORGE F. COLLMER,
JAS. DUSHANE.