(No Model.)

W. S. SMITH.

WAGON BRAKE.

No. 419,081. Patented Jan. 7, 1890.

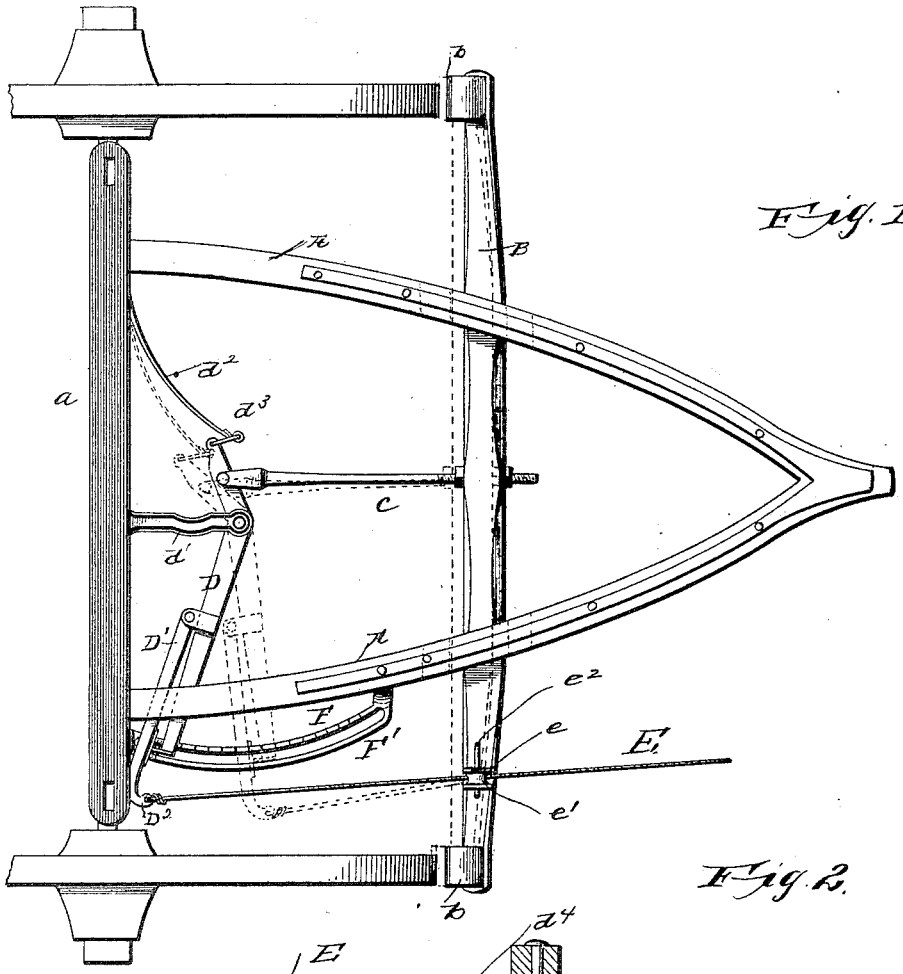

Fig. 1.

Fig. 2.

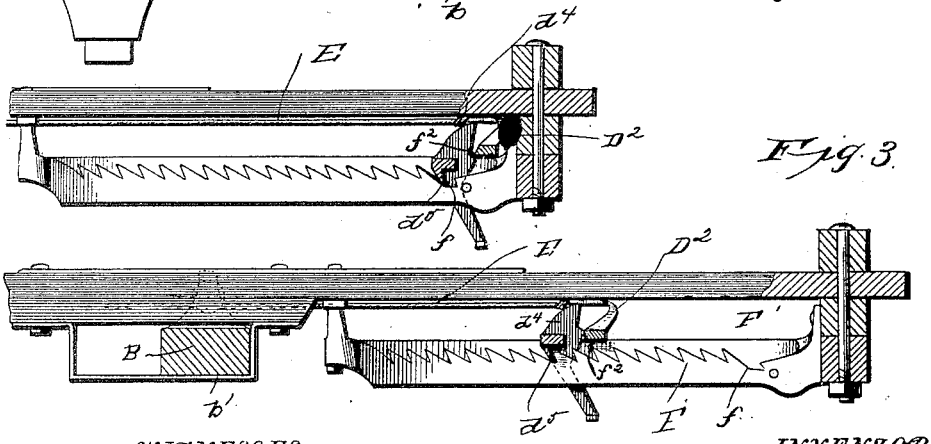

Fig. 3.

WITNESSES

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WAGON-BRAKE.

SPECIFICATION forming part of Letters Patent No. 419,081, dated January 7, 1890.

Application filed June 13, 1889. Serial No. 314,095. (No model.)

To all whom it may concern:

Be it known that I, WARREN S. SMITH, a citizen of the United States of America, residing at Stone Church, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Wagon-Brakes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to certain improvements in wagon-brakes; and it consists of the novel construction and combination of parts, as will fully appear from the following description and accompanying illustration, in which—

Figure 1 is a plan view of my invention. Fig. 2 is a side elevation thereof, and Fig. 3 is a detailed sectional view illustrating different positions of the lock.

In the embodiment of my invention I employ the ordinary hounds A, connected at their rear ends to the vehicle-axle *a*, and upon these ends of the hounds is disposed the ordinary bolster, as shown.

B is the horizontal shoe-carrying bar, having applied to its outer ends the shoes *b*. The bar B is supported so as to have limited back and forth sliding movement in the keepers *b'* *b'*, secured to the under side of the hounds.

To the center of the shoe-carrying bar B is secured the forward end of a rod C in any suitable manner, while the other end of this rod is connected, it may be, as shown, to the short arm *d* of a main lever D, the latter end of the rod being bifurcated or forked, and the branches or arms thereof having pivotal connection with the lever. The lever D has in its length a bend, its short arm thus standing at an obtuse angle to its longer arm, and is fulcrumed in a bifurcated or forked bracket *d'* at the angle of its bend.

d^2 is a stout, preferably flat, spring, having one end bolted or secured to the said bar of the axle *a* and its other end connected to the end of the short arm of the lever D by means of a bail or link d^3. The outer end of the lever D has cast or formed on it a cam d^4, while upon its under side immediately adjoining said cam is a knife-edged rib or tooth d^5. The cam d^4 has a double inclined face, said face also being slightly rearwardly inclined upward from the upper incline, which latter incline is quite slight, the purpose of which will appear farther on.

To the lever D, about midway the length of its long arm, is connected a supplemental lever D', its forward end reaching outward beyond that end of the lever D, and having an upward and outward and slightly forward extended or offset portion D^2, to which is connected a line or chain E for manipulating the lever D', and consequently the lever D. The line or chain E is carried forward under a pulley *e*, both which and its frame *e'* are arranged upon and slide sidewise upon a keeper e^2, secured upon the shoe-carrying bar B, to enable the position of the pulley to conform to the arc described by the lever in its movement, as the line or chain is pulled. The line or chain has its forward end within convenient reach of the driver.

F F' is a combined curved ratchet-bar and rail, the ends of which are secured one to the under side of the hounds and the other to the said bar of the axle *a*. The rail F' stands at its upper edge above the ratchet-bar F, and upon it rests or rides the supplemental lever D'. Upon the ratchet-bar F rests the lever D, while the knife-edged rib or tooth d^5 engages the teeth or notches of the bar to effect the locking of the brake-shoes on the bar B against the wheels.

At the extreme rear end of the line or series of teeth of the ratchet-bar F is a deep notch *f*, into which the lever D is caused to automatically drop under the action of the spring d^2, when the lever is disengaged from the ratchet-bar, thus holding the shoes from the wheels when the brake is not applied. It will be seen that when the line or chain is drawn upon, assuming the lever D is in the deep notch *f* of the ratchet-bar, the supplemental lever D' will press forwardly upon the slightly rearwardly-inclined portion of the face of the cam d^4 and lift the knife-edged rib or tooth d^5 upon and be caused to ride over the backs of said ratchet-bar until the pull upon the line ceases, when said rib or tooth will drop into or engage the coincident notch between the teeth on said bar, and thus lock the shoes against the wheels, the bar B, with said shoes, having in the meantime been moved by the action of lever D and the rod C toward the wheels. Upon the

release of the pull upon the line or chain E it will be noticed that the slightly-forwardly projecting beveled edge f^2 of the supplemental lever D′ will drop immediately in rear of the lower inclination of the face of the cam d^4, and thus, when the line is drawn upon, act upon and elevate the knife-edged rib or tooth d^5 of the lever D out of engagement with the ratchet-bar and let the lever D, with the lever D′, under the action of the spring d^2, go back to the extreme rear end of the ratchet-bar and the lever D drop into the notch f in said ratchet-bar.

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

1. The combination, with the rod and the shoe-carrying bar, the combined ratchet-bar and rail, and the spring, of the main lever, having on its free end a cam and a tooth adjoining said cam engaging a ratchet-bar, substantially as set forth.

2. The lever and mechanism for actuating a shoe-carrying bar, said lever having a cam and a tooth engaging a ratchet-bar, and a supplemental lever engaging said cam on the main lever, substantially as set forth.

3. The combination of the brake-actuating mechanism, the ratchet-bar and rail, and the levers, one engaging said ratchet-bar and having a cam, and the other lever pivoted to the aforesaid lever and riding upon said rail and engaging said cam, substantially as set forth.

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

WARREN S. SMITH.

Witnesses:

JESSE RAMBLE,

JACOB R. CONNELLY.