G. ADAIR & F. BABCOCK.

WAGON-BRAKE.

No. 181,388. Patented Aug. 22, 1876.

fig. 1.

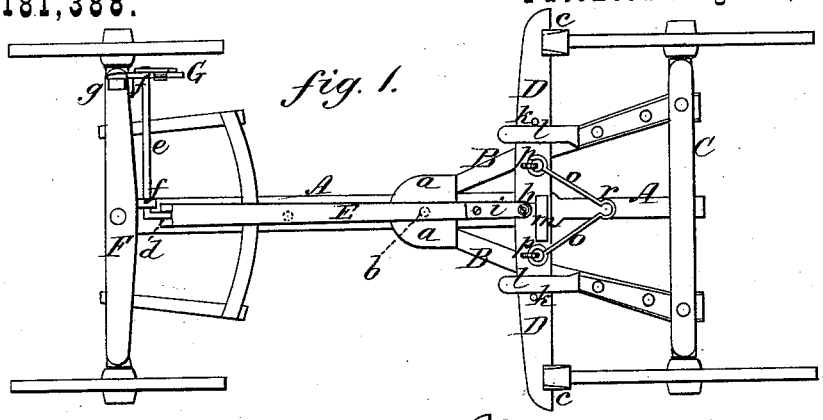


fig. 2

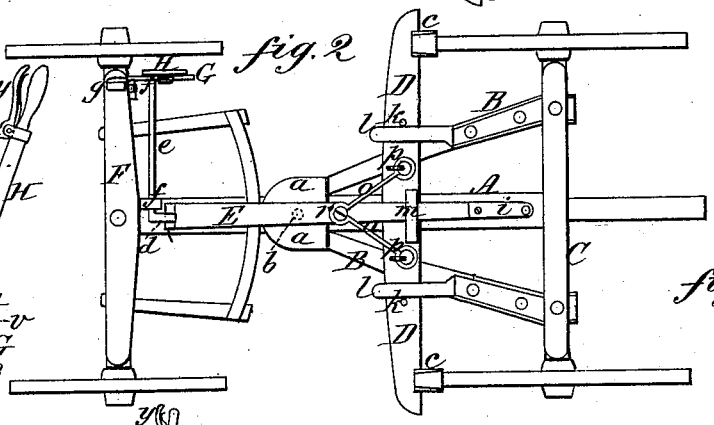


fig. 5

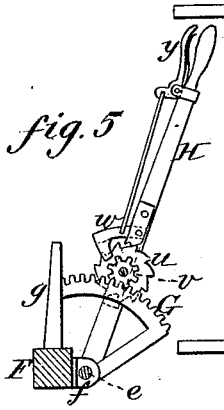


fig. 6.

fig. 3.

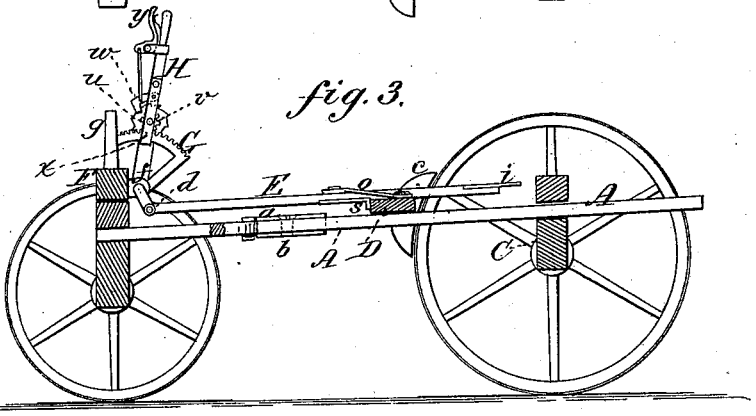
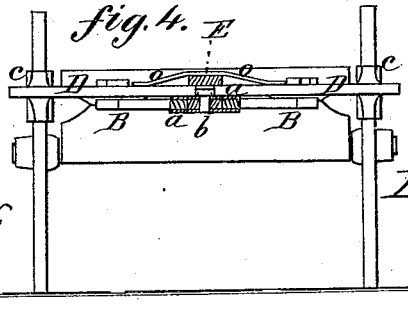


fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE ADAIR AND FRED. BABCOCK, OF ROCK FALLS, ILLINOIS.

IMPROVEMENT IN WAGON-BRAKES.

Specification forming part of Letters Patent No. **181,388**, dated August 22, 1876; application filed February 7, 1876.

To all whom it may concern:

Be it known that we, GEORGE ADAIR and FRED. BABCOCK, of Rock Falls, in the county of Whitesides and State of Illinois, have invented a new and useful Improvement in Wagon-Brakes, of which the following is a specification:

The invention we have made in wagon-brakes relates more particularly to the means of operating the brake-beam, which carries the rubbers, and to the adaptation of such means to extensible wagons.

We shall hereafter specifically point out in the claims the several devices and combinations of devices particularly our own.

To enable those skilled in the art to make and use our invention we refer to the following general description, and to the accompanying drawings, in which—

Figure 1 represents a top view of the running-gear of an extensible wagon embracing our invention, in which the wagon is fully extended; Fig. 2, a similar view, in which the wagon is shortened; Fig. 3, a longitudinal section of such a wagon when shortened; Fig. 4, a vertical section taken through the keeper of wagon-hounds, and Figs. 5 and 6 views of the operating-lever of the brake mechanism.

Our brake is especially applicable to extensible wagon—such, for instance, as the Jackson wagon—but is equally applicable to all wagons, extensible or otherwise.

The wagon-reach A is made to pass through the socket formed by the wagon-hounds B B and their keeper-plates *a a;* thence through a socket-rest in the middle of the rear axle C, said reach A being fastened by a bolt, *b*, at the hounds-connection. It is by this means only that the wagon is lengthened or shortened.

The brake-beam D carries the rubbers *c*, and is operated through a coupling-reach, E, having a loose connection, *d*, with a crank-rod, *e*, journaled in a lug, *f*, projecting from the front bolster F, and in the segmental rack G of the operating-lever H, said rack fastened to said bolster and its bolster-stake *g*, usual in such wagons as we use here to illustrate our invention. This lever H and its operation and relation to the brake-beam D will be hereinafter more specifically set forth.

When the wagon is extended the coupling-reach E is connected to the brake-beam D by a bolt, *h*, passing through a lapping-iron, *i*, bolted to such coupling-reach, and the brake-beam with which it is shouldered. This brake-beam when thus secured to its coupling-reach is capable of being pushed back and withdrawn, respectively, to force its rubbers *c* against the wheels to retard their revolution or to relieve them. To avoid lateral strain upon the coupling-reach, and to cause the brake-beam to maintain its normal position—that is, presenting its rubbers to the tires—we provide said brake-beam with stop-pins *k*, which, in combination with metallic guide-straps *l*, rising from and secured to the hounds B, keep said beam from thrusting laterally.

When the wagon is shortened the bolt *h* is removed, as is also the hounds-keeper bolt *b*. The coupling-reach E is slightly lifted, and passed over the brake-beam D, under a strap-iron, *m*, which prevents said coupler from flying up, and the front wheels, carrying the wagon-reach A and coupler E, are brought toward the hind wheels. In this way the reach A passes through the hounds-socket and the rear axle-bed socket, and extends from the rear of the wagon, as is commonly the case. The hounds are again secured to the wagon-reach by the bolt *b*, and the coupler E is connected to the brake-beam D, but by a means somewhat different from its connection when the wagon is extended. The coupler E being prevented from rising up and down by the strap *m* upon the brake-beam, it is secured to said beam by a metallic brace, *o*, loosely jointed or hinged at *p p* upon the brake-beam, and to the coupling-reach by the same bolt *h*, heretofore mentioned, which passes through an eye, *r*, Fig. 1, in said brace, to the coupling-reach. This is solely for the purpose of connection, and has no reference to the power exerted to force the brake-beam back. This is effected by an iron plate or slug, *s*, Fig. 3, let into and securely fastened to the coupling-reach—that is to say, it has this function in the short adjustment. In the long adjustment, or adjustment with wagon extended, this function is effected by the end of the coupling-reach, which presses directly against the brake-beam, its connection or fastening being by a lapping-iron, as heretofore described.

The brake-lever H is connected with the coupling-reach E by a crank-rod journaled at *f f*. The segmental rack G is fastened to the front bolster and bolster-stake. Operating the crank-rod is the brake-lever H, which carries upon the same short shaft *t*, and concentrically, a ratchet, *u*, and pinion *v*, the pinion engaging with the rack, and the spring-pawl *w* controlling the ratchet, and which is capable of being released by a small lever, *y*. Upon the inner side of this brake-lever H is a guide-piece, *x*, which travels upon the inner side of the rack as the lever moves, and also serves to journal the short shaft of the ratchet and pinion. When, by a well-known operation of the lever, the brakes are down, they are held so by the spring-pawl, and easily released by operating the small spring-lever in the handle of the brake-lever.

We claim—

1. The combination, with the brake-beam D and brake-lever H upon the front bolster, of an extensible coupling-reach, E, provided with a lapping-iron, *i*, for its long adjustment, and a slug or plate, *s*, for its short adjustment, to said brake-beam, substantially as described.

2. The combination, with the extensible coupling-reach E and the brake-beam D, of the brace *o*, hinged to the brake-beam, and connected to the coupling-reach when the wagon is shortened, as described.

3. The combination, with the extensible reach E, the brake-beam D, and the hinged brace *o*, of the holding-strap *m*, as and for the purpose described.

In testimony that we claim the foregoing we have affixed our signatures in the presence of two witnesses.

GEORGE ADAIR.
FRED. BABCOCK.

Witnesses:
M. A. BUNN,
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