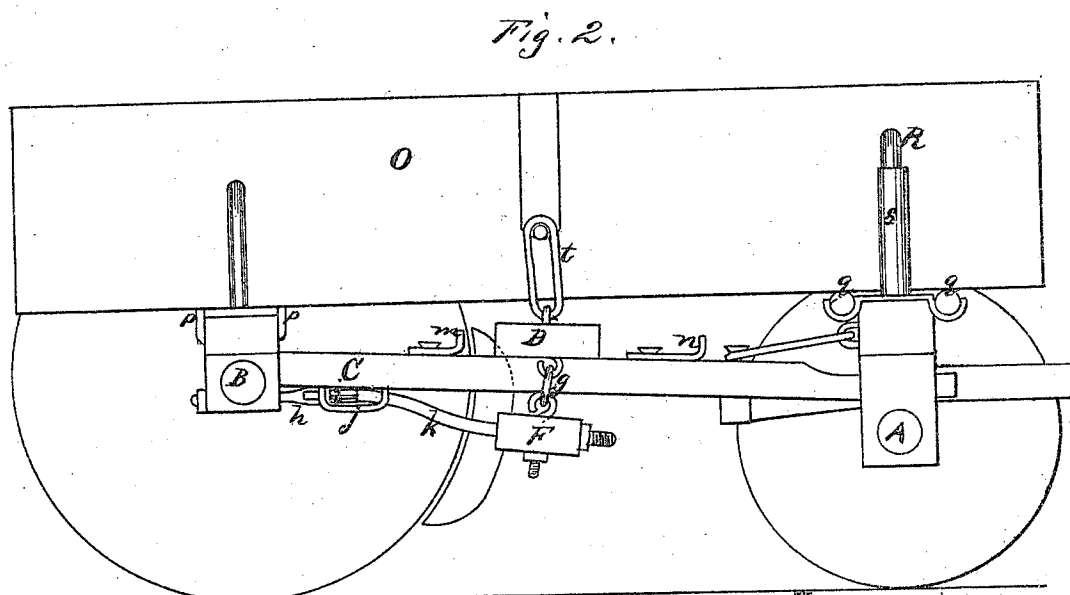
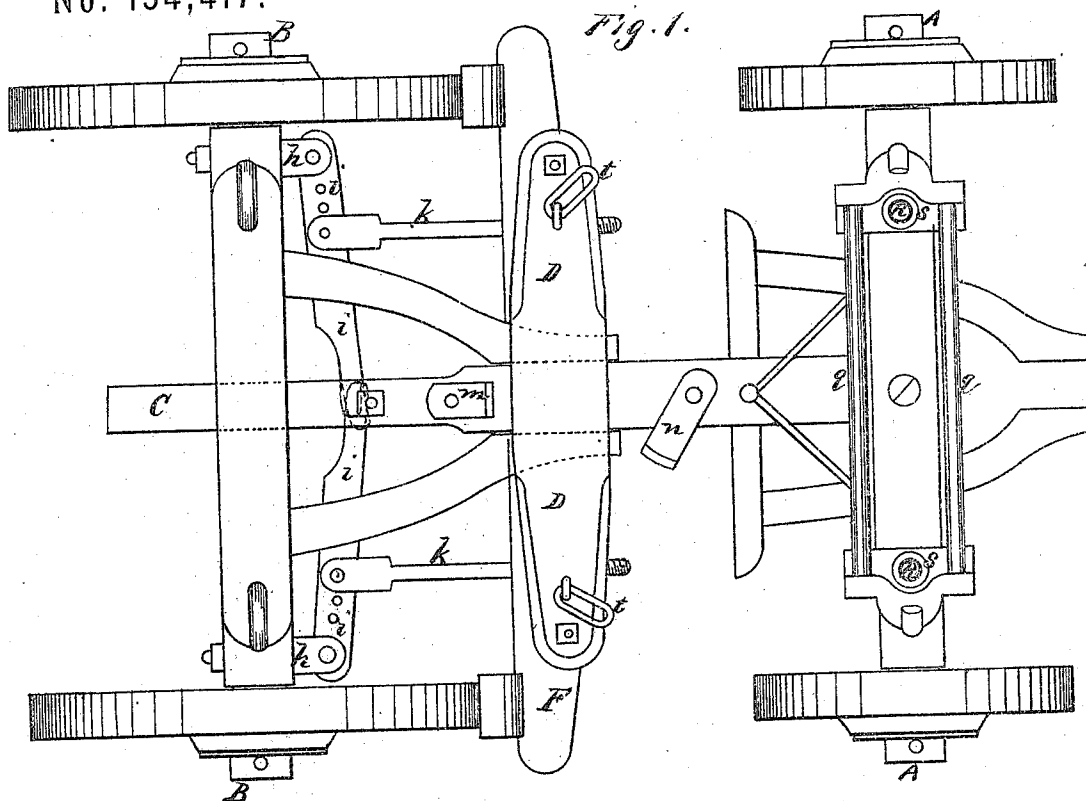


E. T. BUCKNAM.
Wagon-Brakes.

No. 134,417.

Patented Dec. 31, 1872.



Witnesses

J. L. Boone
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Inventor

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UNITED STATES PATENT OFFICE.

EZRA T. BUCKNAM, OF SONORA, CALIFORNIA.

IMPROVEMENT IN WAGON-BRAKES.

Specification forming part of Letters Patent No. 134,417, dated December 31, 1872.

To all whom it may concern:

Be it known that I, EZRA T. BUCKNAM, of Sonora, Tuolumne county, State of California, have invented an Automatic Wagon-Brake; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention and improvements without further invention or experiment.

My invention relates to improvements in that particular class of self-acting wagon-brakes in which the reach passes loosely through the rear axle and permits it to move forward when the wagon is descending a hill and thus put on the brakes. My improvements consist, first, in the peculiar manner of suspending the brake, and the arrangement of the levers for applying them; secondly, in an improved manner of securing the wagon-bed upon the bolsters and rear axle-bed so as to cause the full weight of the load to regulate the pressure of the brakes upon the wheels. It also relates to an arrangement of rollers or a revolving sleeve upon the front standards, for the purpose of acting in combination with the rollers on the bolster, to allow the bed to slide forward freely.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a plan view with the body removed, and Fig. 2 is a side elevation.

A represents the front, and B the rear axle of a wagon. The reach C passes loosely between the ends of the rear hounds, and through the rear axle-bed, as shown. A timber, D, passes transversely across the wagon, being secured upon the forward ends of the rear hounds and above the reach. A strong metal plate covers the space through which the reach passes below the hounds. The timber D extends upon each side of the reach to the outside of the wagon-bed, slightly in front of the wheels, and the brake-beam F is loosely suspended from it by links g at each end, so as to pass below the reach and hounds. To the inside of the axle-bed, near each wheel, I secure a lug or U-headed bolt, h, to which the extremities of levers i are at-

tached. These levers extend toward each other parallel with the axle-bed, and their meeting extremities overlap each other and pass through a loop or ring, j, on the under side of the reach. A rod, k, is secured to the suspended brake-beam in the proper position, near each end, and passes back to the levers i, to which they are attached at a point suitable between the fulcrum and reach. Several holes are made through the levers i, so that the point of attachment can be shifted to or from the fulcrum, as desired, according to the pressure required upon the brakes.

Now, as the wagon begins to descend a hill, the rear axle will slide forward on the reach, thus carrying the overlapping ends of the levers nearer to the axle-bed, and consequently applying the brakes l to the face of the wheel, and when the wagon arrives upon level ground the pull of the team upon the reach separates the brakes from the wheels. A stop-plate, m, behind the timber D, serves to prevent the reach drawing out too far, and a hinged or revolving stop-plate, n, in front of the timber serves, when turned against the edge of the timber, to brace the reach and prevent it from putting on the brakes when they are not required. The box or bed O has secured to its rear end, at each side, in the proper position to clasp the rear bolster, a plate, p, the ends of which are bent down; or a pin can be used which will enter a hole in the bolster in lieu thereof, if desired. The front end of the bed rests on rollers q which extend the entire length of the bolster, and upon each side of it, so that when the wagon descends a hill the forward end of the bed will move freely upon the front bolster, while the rear end clings to the rear bolster, thus causing the full weight of the load to act in applying the brakes. By placing the rollers q upon each side of the bolster, and leaving a space between the roller and the bolster, there is no danger of the rollers being clogged with dirt or other substances so as to render them ineffective, as the dirt will pass entirely through without lodging.

To prevent the bed from binding against the front standards R I apply around the standards a loosely-revolving sleeve, s, or friction-rollers, so as to give the bed more freedom.

As an additional security, I connect the ends

of the transverse timbers D with the bed by means of links *t*, which catch over hooks on the side of the bed, as shown.

By this arrangement I am enabled to employ the automatic movement of the bed, and the weight which it contains, with great effect, and practically overcome many obstacles heretofore encountered in this class of wagon-brakes.

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

1. In combination with the wagon-bed O and the axle B, secured together as specified, and with the sliding reach C, the levers *i* pivoted to the lugs *h*, the rods *k k*, suspended

brake-beam F, links *g*, and transverse timber D, all as shown and described, to operate as set forth.

2. The sleeves or friction-rollers *s* on the front standards, in combination with the roller *q* on the front bolster, for the purpose described.

3. The revolving lock-plate *n* for locking the reach to prevent the brakes from acting, as specified.

In witness whereof I have hereto set my hand and seal.

EZRA T. BUCKNAM. [L. s.]

Witnesses:

C. L. STREET,
R. J. STARBIRD.