

G. H. HENKEL.

Car Brake.

No. 54,152.

Patented Apr. 24, 1866.

Fig. 1.

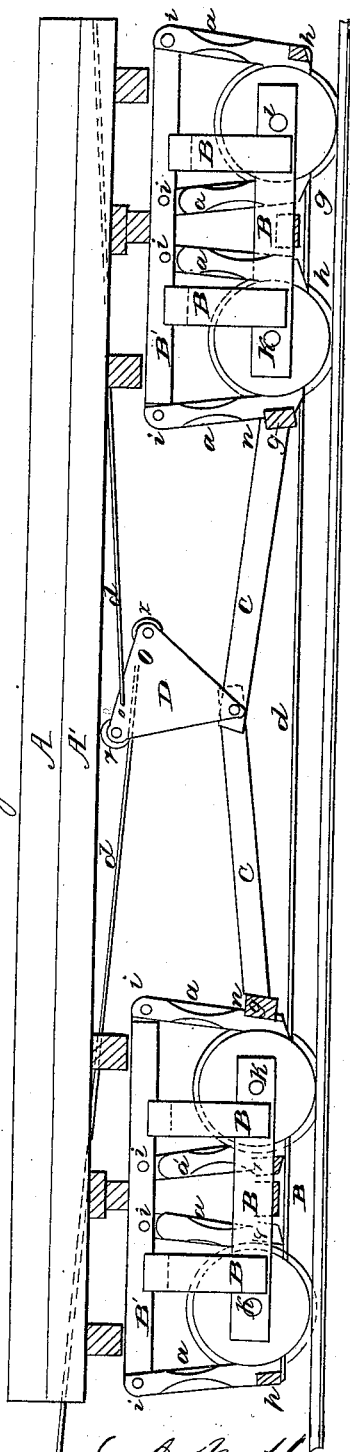
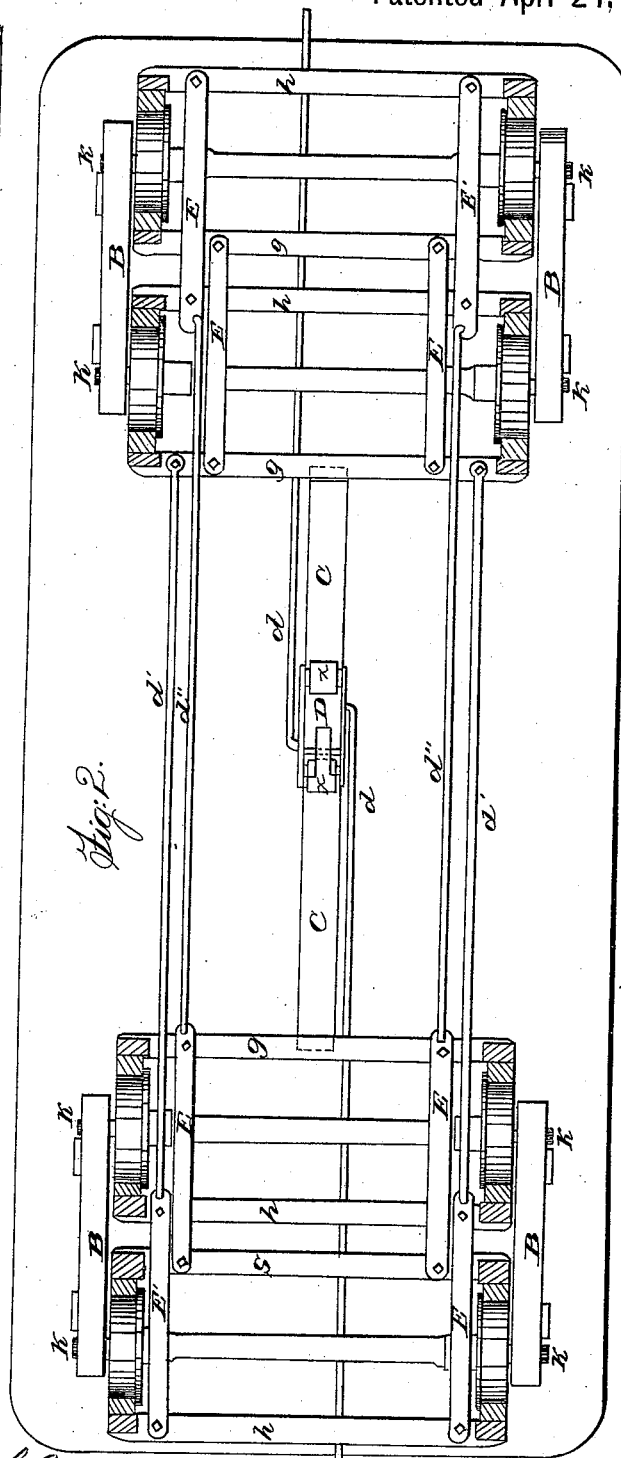


Fig. 2.



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GEORGE H. HENKEL, OF MIDDLETOWN, OHIO.

IMPROVED CAR-BRAKE.

Specification forming part of Letters Patent No. 54,152, dated April 24, 1866.

To all whom it may concern:

Be it known that I, GEORGE H. HENKEL, of Middletown, in the county of Butler, in the State of Ohio, have invented new and useful Improvements in Brakes for Railroad-Cars; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 of the drawings represents a side elevation of the platform and trucks of a car with my improved brake attached thereto. Fig. 2 represents the bottom or under side of a railroad-car with my improvements in car-brakes.

My invention consists in the application of double brakes to car-wheels by an arrangement of levers and rods or chains, as will be herein more fully described.

To enable others to construct and use my invention, I will proceed to describe it with reference to the accompanying drawings, which are made a part of this specification.

A denotes the platform or bottom of a car, and B is the truck, to which the wheels and axles are connected in the usual manner. B' is the upper frame-piece of the truck, to which the brakes *a* and *a'* are hinged, as seen in the drawings at *i i*. The brakes *a* and *a'* are connected by ties *g* and *h*, as seen in Fig. 2; and the ties *g g* and *h h* are connected together, respectively, by the bars E and E'. The axle-journals of the truck-wheels are seen at *k k*, extending through frame-piece B. One set or pair of the brakes of one of the trucks is connected to one pair of brakes of the other truck by the rods *d' d'*, and the other two pairs of brakes are connected by the rods *d''*. These rods *d'* and *d''* may be connected to the ends of bars E and E', or to the ties *g* and *h*.

Underneath the center of the car-platform there is a string-beam, A', (seen in Fig. 1.) D is a tumbler of triangular form of sufficient thickness to receive two friction-rolls, *xx*, which work against string-beam A' when the brakes are operated. To the lower corner of tumbler D the ends of the two thrusting-levers *c c* are hinged, as represented in Fig. 1, and these levers extend to the two inner brake-ties, *g g*, and are fitted to their sides and tops loosely by means of a bolt or key which extends through an overlapping portion of the levers *c c*, as seen at *n n* of Fig. 1. The upper sides

of these levers may be provided with metal bars to extend upon the inner ties, *g g*, and these bars may be provided with suitable holes for bolts to hold the levers *c c* in place. The bolts, however, must not confine the ends of the levers rigidly to the brake-ties, because, in operating the brakes, the levers are raised and depressed by the action of tumbler D. The rods *d d*, which extend to the ends of the cars, are connected to the tumbler D at *o o*. These rods *d* may have chains at their ends to be attached to reel-shafts, to be operated in the usual manner at the ends of the cars. The ends of the levers *c c*, which are secured to the tumbler D, may be of a rounded form, and connected together by a flat link, so that these ends shall press against each other when depressed by the action of the tumbler D. A retracting-spring may be attached to either the tumbler, levers, or string-beam, for the purpose of throwing the tumbler out of place when one of its friction-rolls *x x* rests against the string-beam A'.

The operation of my invention is effected in the following manner: Either of the rods *d*, by means of a chain connected to a reel-shaft, may be drawn so as to cause the tumbler D to move under the string-beam, causing one of the friction-rolls *x* to bear against and traverse the under side of beam A', which action of the tumbler will be communicated to levers *c c*, depressing their inner ends. The depression of these levers will cause their outer ends to press against the inner ties, *g g*, and the brakes *a a a a* being connected to ties *g g g g* the former will be pressed against the inner sides of the car-wheels. Both of the ties *g g* of each truck being connected longitudinally by bars E E, all four of them will be pressed against the inner sides of the car-wheels with equal force; and the same operation of tumbler D which causes the brakes *a a a a* to be brought into action against the inner sides of the car-wheels will at the same time cause the brakes *a' a' a' a'* to be brought with equal force against the outer sides of the car-wheels, because these brakes *a'* are fastened to the ties *h h h h*, which are connected by bars E' E', which are in turn connected, respectively, by rods *d' d''*, to the ties *g g*, against which levers *c c* are caused to press by the action of tumbler D.

It will now be understood that the several

brakes act at the same time, and, being actuated by the same mechanism and power, must press with equal force against the opposite sides or peripheries of the car-wheels. This manner of braking cars will wholly relieve the journals of the wheels from that undue friction which is attendant upon the use of the single brakes generally in use.

My invention will also greatly lessen the liability of breaking the wheel-axles, which accidents have frequently occurred with the single brake.

It will also be observed that the action of my improved brake will transfer a portion of the weight of the car from the axles of the car to the sides or periphery of the wheels, because whatever power is applied to the tumbler through the rods d d will be greatly augmented, and exert its force upon the brakes and the string-beam A' under the car. This action will tend to raise the car from the wheel-journals by transferring its weight through the brakes to the periphery of the wheels. The retracting-spring referred to above may not generally be found necessary to throw the tumbler out of contact with the string-beam,

because the friction-roll x will allow the tumbler to return to its normal condition out of contact with the lower side of the string-beam when the reel or capstan is reversed, so as to slacken the chain and rod d , by which the power is applied.

It is deemed proper to suggest that two rods, arranged centrally and connected to ties g g , would serve the purpose of all four of the rods denoted by d' d'' .

Having now fully described my improvements in brakes for cars, what I claim therein, and desire to secure by Letters Patent, is—

1. The tumbler D , or its equivalent, in combination with levers c c , for operating car-brakes, in the manner and substantially as described.

2. Rods d and tumbler D , provided with friction-rolls x x , in combination with string-beam A' , or its equivalent, substantially as described.

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Witnesses:

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