

WILKIN & CLARK.

Car Brake.

No. 100,958.

Patented March 15, 1870.

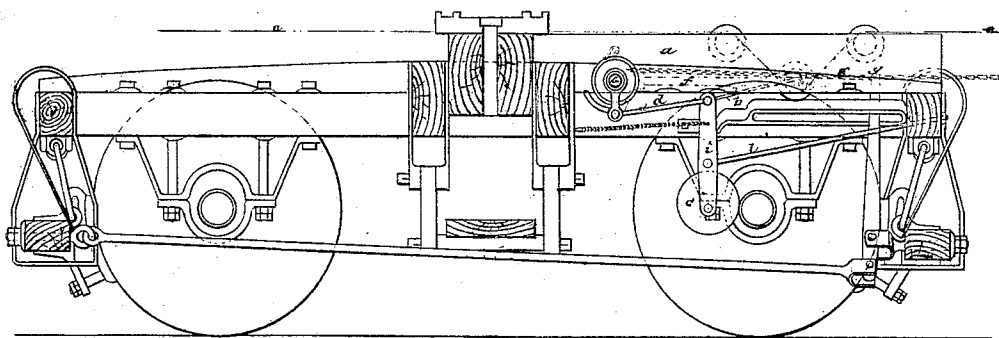


Fig 1.

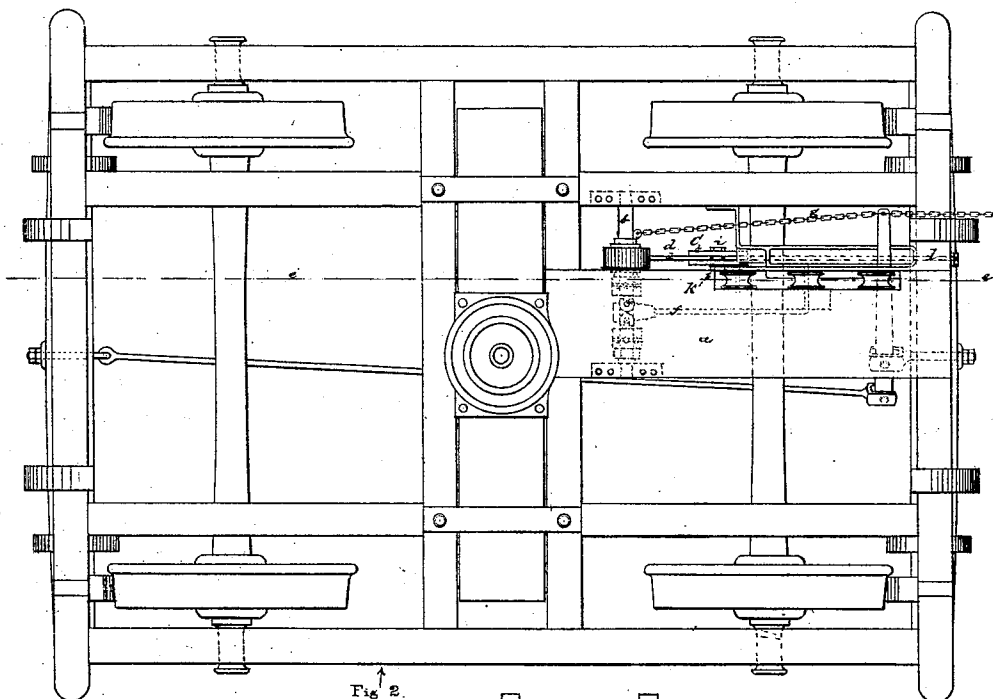


Fig 2.

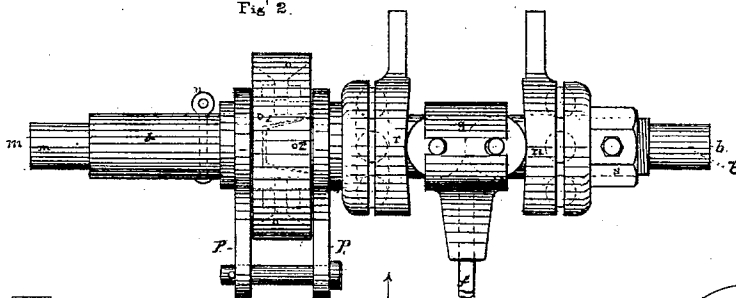


Fig 3.

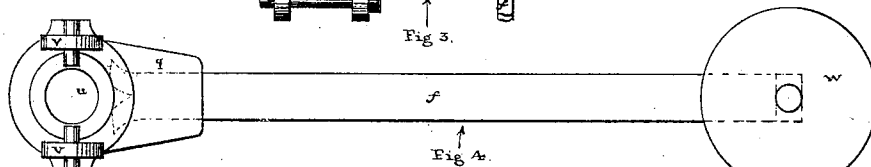


Fig 4.

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MARMADUKE WILKIN AND JOHN CLARK, OF LONDON, ENGLAND.

Letters Patent No. 100,958, dated March 15, 1870.

IMPROVEMENT IN AUTOMATIC CAR-BRAKES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, MARMADUKE WILKIN and JOHN CLARK, of London, in the county of Middlesex, England, have invented a new and useful Improvement in Car-Brakes; and we do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of this invention.

Figure 2 is a plan or top view of the same.

Figures 3 and 4 are details in a larger scale than the previous figures, which will be referred to as the description progresses.

Similar letters indicate corresponding parts.

This invention consists in the arrangement of a lever subjected to the action of a weight or spring, and suspended, at its free end, from a rope or chain, which extends throughout the entire length of one or more cars, in combination with a clutch or ratchet-wheel, and an oscillating lever deriving its motion from one of the axles of the car, and carrying a pawl, which gears into the ratchet-wheel, and a shaft, on which the ratchet-wheel is mounted, and which connects, by means of a rope or chain, with the ordinary brake-lever, in such a manner that, when the clutch-lever is raised, the shaft connected to the brake-lever remains stationary; but as soon as the clutch-lever is allowed to follow the action of its weight or spring, a revolving motion is imparted to said shaft, and the brakes are applied.

In the drawing—

The letter *a* represents a plank, which is bolted to the truck-frame, and which forms the support for one of the bearings of the shaft *b*, the other end of which rests in a box supported by the truck-frame.

On said shaft, of which a detached view is shown in fig. 3, we place a ratchet-wheel, which is mounted on a friction-clutch, as will be hereafter described.

This ratchet-wheel obtains its motion by means of a pawl secured to a rod, *d*, which connects with a lever carrying an eccentric wheel, *e*, which bears against one of the car-axles, so that, as long as said axle revolves, an oscillating motion is imparted to the pawl-lever.

A suitable check-click prevents the ratchet-wheel from turning backward.

The friction-clutch of the ratchet-wheel is controlled by a lever, *f*, which is subjected to the action of a weight or spring, and which, when allowed to drop, causes the clutch to bind, and to form a connection between the ratchet-wheel and the shaft *b*, so that the motion of the ratchet-wheel is transmitted to the shaft; but as long as the clutch-lever *f* is raised, the ratchet-wheel turns independent of the shaft *b*, which latter, in that case, remains stationary.

The free end of the clutch-lever is suspended from a rope or chain, *e*, which passes over suitable pulleys throughout the entire length of the car, or of a series of cars; and, if this rope or chain is released or accidentally parted, the clutch-lever drops, and the shaft *b* is caused to revolve.

This shaft connects, by a chain or rope, *g*, with the levers of the ordinary brakes; and, if the shaft revolves, said chain or rope is wound up, and the brakes are applied.

A suitable stop may be so arranged, in connection with the eccentric wheel *e* and clutch-lever *f*, that, when the lever is raised, the eccentric wheel is thrown out of contact with the car-axle, and, when the lever is released, the stop is disengaged, and the eccentric wheel *e* is drawn up against the car-axle by the action of a spring connected to the lever *i*, in which said wheel is mounted.

The shaft *b* is shown detached in fig. 3, and in a larger scale than the previous figures. It is provided with an eye, *n*, to which the chain or rope *g* is secured.

The ratchet-wheel is bored out large enough to fit over the friction or expanding-clutch *o*, which is composed of two parts, *o*¹ *o*², one of which is keyed fast to the shaft, while the other slides thereon, and is so constructed that the same, when pressed toward the fixed part, will expand, and bind firmly in the hole of the ratchet-wheel.

By releasing the rope or chain *e*, which sustains the lever *f*, the brakes are applied; and, if this rope or chain is made to extend throughout a series of cars, the brakes of all the cars can be applied by releasing said chain or rope; or, if one of the coupling parts and the chain are torn, the brakes will be applied automatically, and many serious accidents will be avoided.

What we claim as new, and desire to secure by Letters Patent, is—

1. The lever *f*, subjected to the action of a weight or spring, in combination with an expanding-clutch, a ratchet-wheel, a shaft and chain, and the brakes of a railroad car, all constructed and operating substantially as shown and described.

2. The rope or chain *e*, extending throughout a series of cars, in combination with the lever *f*, the expanding clutch, ratchet-wheel, shaft-chain, and the brakes of the cars, substantially as set forth.

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