

(No Model.)

J. I. KINSEY.
POWER BRAKE.

No. 262,599.

Patented Aug. 15, 1882.

Fig. 1.

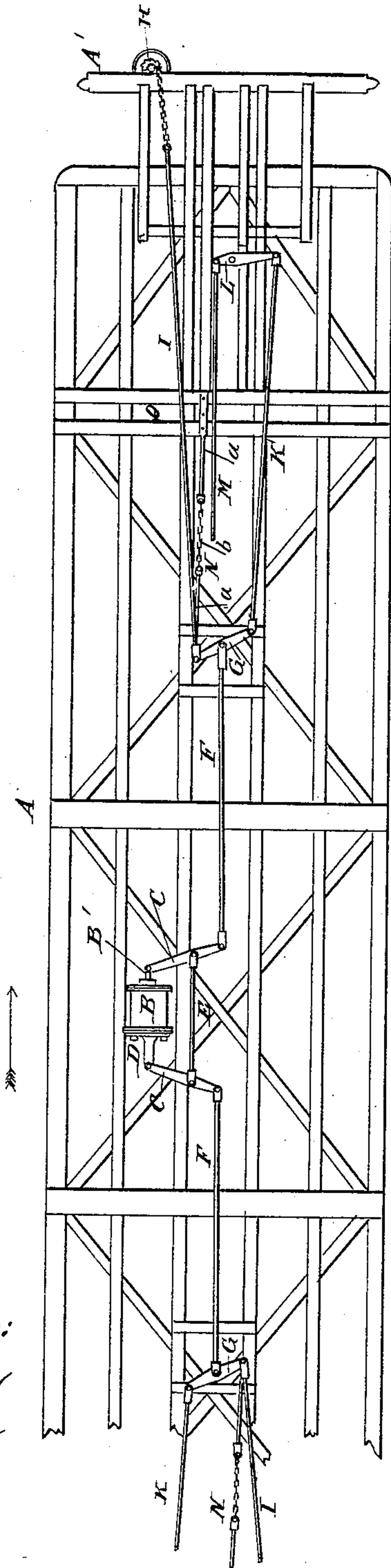
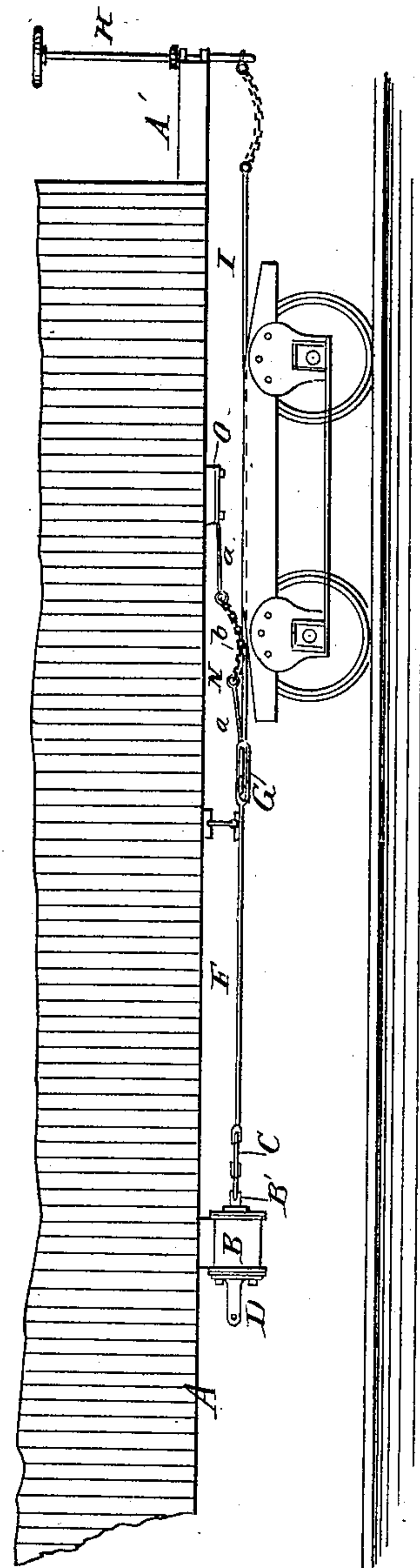


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN I. KINSEY, OF SOUTH EASTON, PENNSYLVANIA.

POWER-BRAKE.

SPECIFICATION forming part of Letters Patent No. 262,599, dated August 15, 1882.

Application filed September 30, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN I. KINSEY, of South Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Improvement in Power-Brakes, of which the following is a full, clear, and exact description.

In using the Westinghouse and other power car-brakes it is found that the strain upon the brake-rods and staffs and car-platforms incident upon the ordinary repeated applications of the brakes in a short time distorts the brake-staffs and car-platforms, thereby creating a necessity for frequent repairs of those parts, and that because of this distortion of the parts the cylinder-piston fails to operate effectively through the whole length of the stroke, whereby power and motion is lost.

The invention is designed as an improvement on power-brakes or such as are operated by air, vacuum, or steam; and its objects are to prevent loss of power or motion in the brake mechanism, to take off or prevent the usual strain upon the brake-rod, brake-staff, and platform of a car, and to thereby obviate the necessity and cost of frequent repair.

The invention consists of a stay or check connecting an end of the brake-rod floating lever with the body of the car, whereby undue strain upon the brake-rod and car-platform, when the power-brake is applied, is prevented.

Figure 1 is a reverse plan of a car-bottom, with parts removed to exhibit other parts, showing my improved device applied to a Westinghouse air-brake. Fig. 2 is a longitudinal elevation of the same.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the bottom of a car, on which is fixed the ordinary brake-cylinder, B, the piston-rod B' of which connects with a cylinder-lever, C, while the other cylinder-lever C is pivoted to a cylinder-lever bracket, D, and the two levers C C are connected by a tie-rod, E. To the extreme ends of the cylinder-levers C C are jointed the floating connecting-rods F F, the other ends of which are jointed to the floating levers G. One end of each floating lever G is connected with a brake-staff, H, by a brake-shaft connecting rod and chain, I, and the other end of the lever G is

connected by a secondary brake-rod, K, with a brake-lever, L, whose opposite end is connected with a lower brake-rod, M, by means of which the brake-shoes (not shown) are applied. All these parts are well known and constitute the main mechanical features of the Westinghouse air-brake.

In this brake, as at present constructed, when the piston-rod B' is moved in the direction of the arrow, Fig. 1, the cylinder-levers C C have their farther extremities thereby moved in the opposite direction, and through the floating connecting-rods F and levers G a strain is brought upon the brake connecting-rod I and staff H, in order to apply the brake through the medium of the secondary brake-rod, K, brake-lever L, and lower brake-rod, M, and this strain becomes so excessive when full power is applied to the brakes that often the lower end of brake-staff H is bent inward and the right-hand corner of the car-platform A' is pulled downward by the usual application of the brakes in a few trips of the car, so that both brake-staff and platform then require repairs or strengthening. This distortion of the brake-shaft and car-platform increases gradually under the repeated applications of the power-brake, and according to the measure of its increase the stroke of the piston-rod fails of effect, so that power and motion both are lost, the motion of said piston-rod being in such case effective only toward the end of its stroke. In order to prevent this strain and distortion, and to make the brake-cylinder piston effective for the full length of its stroke, I connect stays or checks N to the ends of the floating levers G, where the latter are journaled to the brake-shaft connecting-rods I, and the other ends of said stays or checks N are securely bolted to car-bolsters O or other suitable parts of the cars. These stays or checks N do not interfere, it can be seen, with the normal action of the power-brake, and they operate as fulcrums for the brake-levers L when the power-brakes are applied, thereby relieving the rod I from all strain, and these stays or checks N, being composed of rods and chains a b, respectively, are capable of extension and shortening, and hence cannot in any way interfere with the application of the brakes by hand through the brake-staffs H, as

in such case the chains *b* will fall in bights and the stays or checks *N* be thereby shortened.

The improved device is herein shown applied to a Westinghouse brake; but it may be applied to power-brakes of other designs without departing from my invention.

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

10 1. In a power-brake, as a means for relieving or preventing the strain upon the brake rod and staff and car-platform, the stay or check *N*, arranged substantially as herein shown and described.

15 2. In a power-brake, the combination, with the floating lever *G*, brake-rod *I*, and brake-

staff *H*, of the stay or check *N*, substantially as herein shown and described, whereby the distortion of the brake-staff is prevented, as set forth.

3. In a power-brake, as a means for preventing lost motion and power and for making the brake-cylinder piston effective for the full length of its stroke, the combination of the check or stay *N* with piston-rod *B'*, brake-rod *I*, and staff *H*, and their connected and connecting brake mechanisms, substantially as herein specified.

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Witnesses:

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