W. H. KILBURN.

Car Brake.

No. 55,670. Patented June 19, 1866.

Fig. 1.

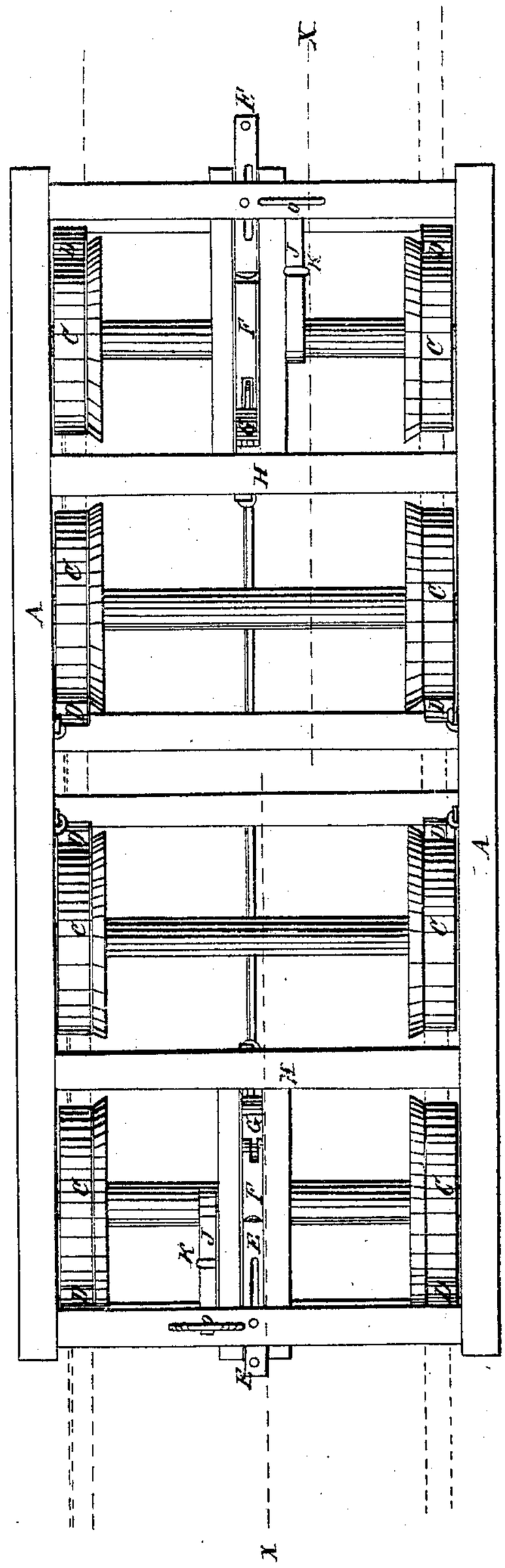
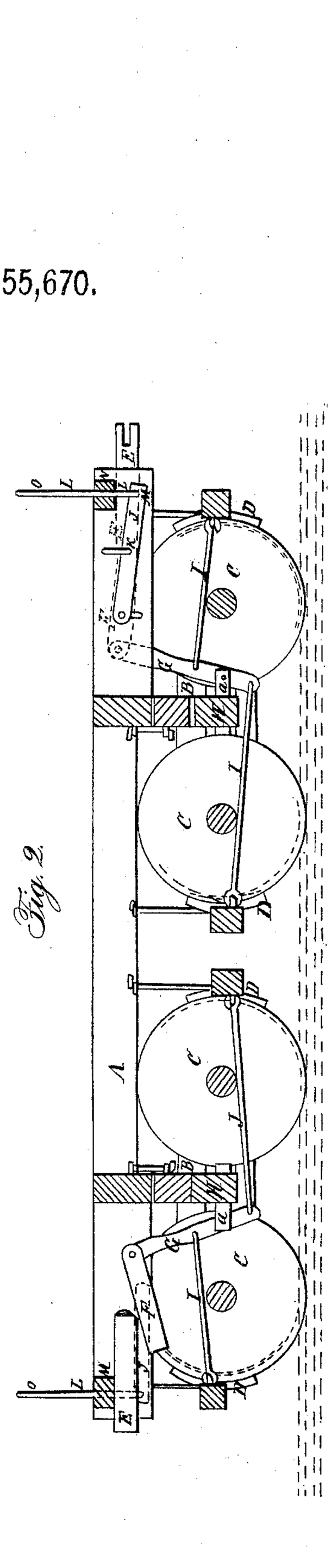


Fig. 2.



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UNITED STATES PATENT OFFICE.

WASHINGTON H. KILBURN, OF KENNEDY, NEW YORK.

IMPROVED CAR-BRAKE.

Specification forming part of Letters Patent No. **55,670,** dated June 19, 1866.

To all whom it may concern:

Be it known that I, WASHINGTON H. KILBURN, of Kennedy, in the county of Chautauqua and State of New York, have invented a new and Improved Connection for Car-Brakes of Railroad-Trains; and I do hereby declare that the following is 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 drawings, forming part of this specification.

The nature of this invention consists in applying the weight of a railroad car or train and the momentum it acquires while running to the purpose of tightening the brakes of the car or train about the wheels and thus stop its motion; and for this purpose it consists in a novel connection, which is susceptible of being established or not, according as may be desired, between the brakes of the several cars, whereby, when the train is in motion, by simply reversing the engine or shutting off steam, the whole weight and momentum of the train, whether composed of more or less cars, will be thrown upon the brake-connections between the several cars, causing them to bring the brakes to bear against the several car-wheels with great force and pressure, consequently stopping the train almost instantaneously.

In accompanying plate of drawings my improvements are illustrated, Figure 1 being a plan or top view of a car-frame having them applied to it, and Fig. 2 a vertical longitudinal section taken in the plane of the line *x x*, Fig. 1.

A in the drawings represents the frame of a car, which may be of the usual construction, and rests upon trucks B, having wheels C C, four to each truck; D, the brakes for the wheels, the arrangement and construction of which, except so far as the present invention extends, is similar to the ordinary brakes for railroad-cars, and therefore needs no particular description herein; E, the ordinary draw-head, one at each end of the car. Back of the inner end of each draw-head and extending in the same direction therewith is a bar, F, one end of which bar is hung or pivoted to the upper end of a vertical lever, G, turning upon a fulcrum-pin, *a*, of the cross-bar H of the trucks I I, rods connecting the brakes with the lower portion of the lever G, one above the fulcrum-pin and the other below. Connected with the bar F, near its end, which is hung to the upper end of the lever G, is a horizontal rod or bar, J, turning upon a fulcrum-pin, K, and, with an iron rod or shaft, L, connected to its end M, extending up through the cross-bar N of the car-frame, above the car-platform, with a handle, O, upon its upper end for convenience in moving the same up and down.

From the above description of the arrangement of the bar F back of each draw-head, and its connection with the brakes of the car, it is plain to be seen that if the said bar is raised sufficiently to bring it in the same line with the draw-head, and then the draw-head pushed inward, the brakes of the car must necessarily be brought to bear against the several car-wheels, whereas, if the said bar F is below the draw-head, as shown at one end of the car-frame in Fig. 2, no effect will be produced upon the brakes by the pushing in of the draw-heads. The raising and lowering of this bar F is produced through the bar or rod J, connecting it with the handle-shaft L, by properly moving the said shaft L up and down, according as may be necessary.

By providing each car of a railroad-train with the arrangement of the bar F, connecting the draw-heads with the brakes, as above explained, and properly adjusting the several bars in line with their respective draw-heads, so as to be operated upon by them in case they are pushed inward, it is plainly obvious that as the train is moving over the rails, whether with a greater or less degree of speed, if the steam be shut off, or the engine reversed, or the speed of the locomotive checked in any other possible manner, the draw-heads of the several cars are thereby necessarily pushed in, abutting against their respective arms F, and, through it and the vertical lever to which the brakes are connected, operating the brakes and bringing them to bear with great force and pressure against the peripheries of the several wheels of the car, consequently stopping the train, as it were, almost instantly.

The amount of friction on the car-wheels produced through the operation of the draw-heads, as hereinabove explained, may be increased or decreased at pleasure by simply lengthening or shortening the distance through which the draw-heads are allowed to move the bars F before their large and outer ends abut

against the cars. The friction can be also further modified by making the levers G somewhat thin, so as to spring slightly, and I deem it best to make such levers a little springy, as by this means the possibility of their breaking will be greatly obviated.

From my improved arrangement for braking up a railroad-train by the weight and momentum of the cars themselves, it is obvious that all excess of power is rendered harmless by the abutment of the larger ends of the draw-heads against the cars, and that, therefore, if there is but little momentum to the train there will be sufficient force to "brake up" the train, if found necessary or desirable by the engineer so to do.

My improvements can be applied to any of the ordinary freight and passenger cars, whether railway or street cars, and operate without interfering in the least degree with the brakes now in use on cars, and requiring no expensive alterations.

With my improvements a train of cars can be stopped with the utmost facility, ease, and quickness, and therefore overcoming in a great measure the liability of collisions. Much labor and expense are economized, as the number of brakemen required is greatly reduced.

In order to prevent the draw-heads from operating upon the brakes when the train is to be backed, it is only necessary to throw the connecting-bars F down and out of line with the draw-head.

I claim as new and desire to secure by Letters Patent—

1. Bringing the brakes of a railroad-train to bear against the wheels of the several cars by the momentum and weight of the train itself when the engine drawing such train or any car of its series of cars is arrested in its motion in any possible manner, substantially as herein described, and for the purpose specified.

2. The draw-head E, bar F, and lever G, when combined and arranged with regard to and connected with the brakes of a railroad-car substantially as described, and so as to operate as and for the purpose specified.

The above specification of my invention signed by me this 6th day of March, 1866.

W. H. KILBURN.

Witnesses:
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