E. N. HUNTSMAN.

Car Brake.

No. 99,678. Patented Feb. 8, 1870.

Fig. 3

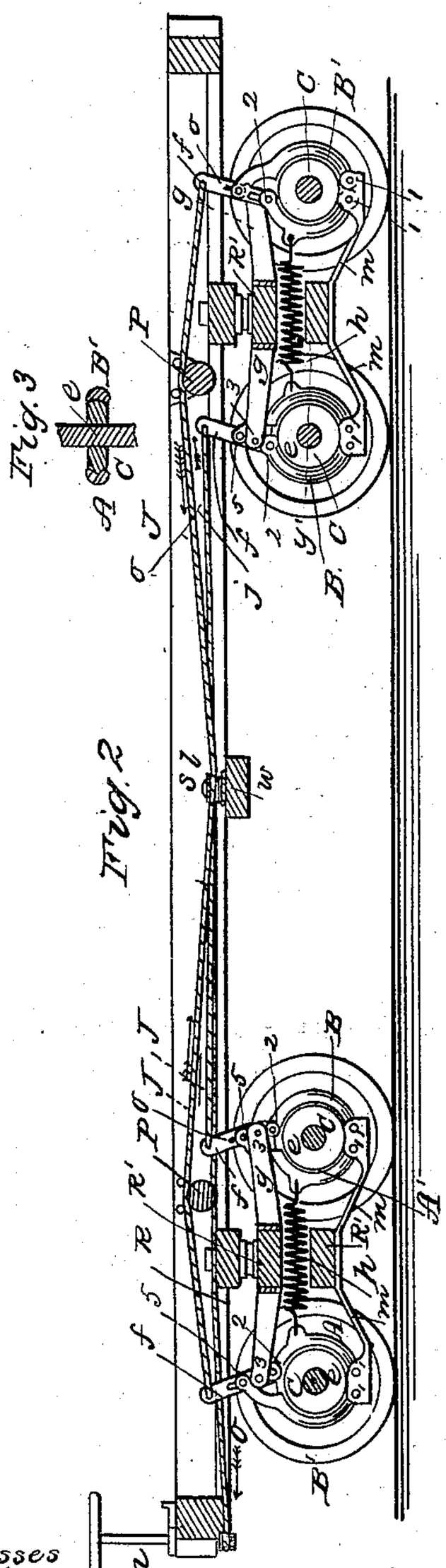
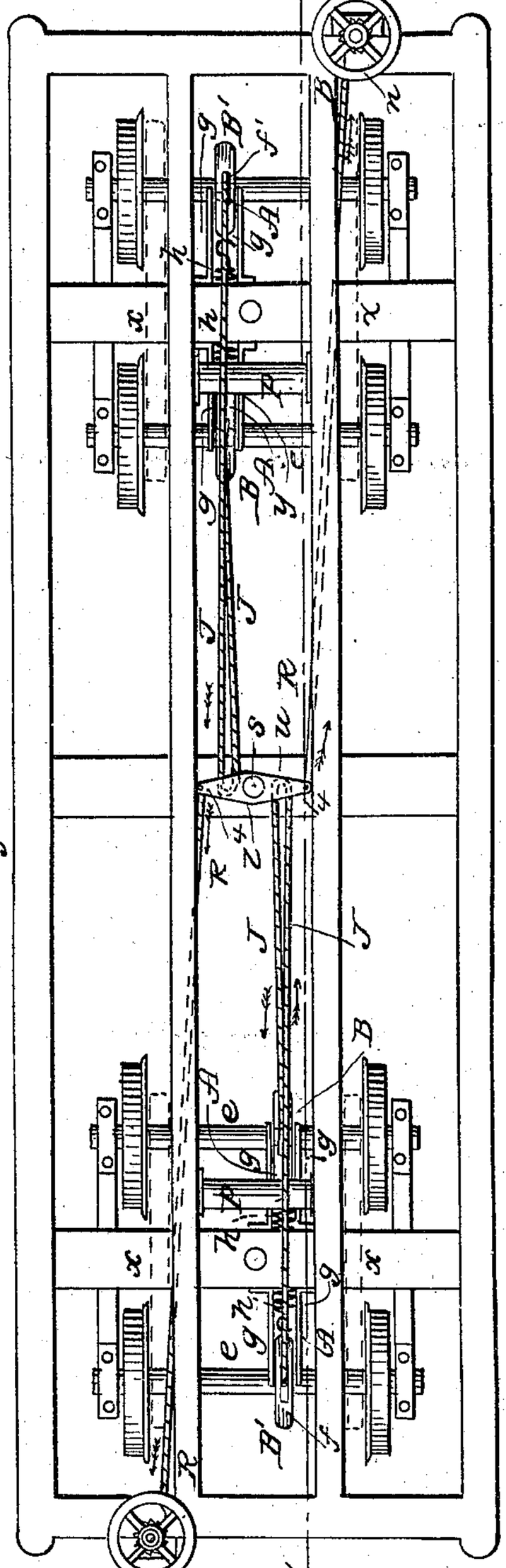


Fig. 2

Fig. 1



Witnesses

A. C. Johnston

Geo H. Thomas

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UNITED STATES PATENT OFFICE.

E. N. HUNTSMAN, OF ALLEGHENY, PA., ASSIGNOR TO HIMSELF, WM. M. CLANEY, I. L. MILLER, AND JAS. T. BLAIR, ALL OF SAME PLACE.

IMPROVED RAILWAY-CAR BRAKE.

Specification forming part of Letters Patent No. **99,678**, dated February 8, 1870; antedated January 31, 1870.

To all whom it may concern:

Be it known that I, E. N. HUNTSMAN, of the city and county of Allegheny, State of Pennsylvania, have invented a new and useful Improvement in Car-Brakes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

The nature of my invention consists in the arrangement of levers, brakes, and brake-pulleys, the whole being constructed, arranged, combined, and operating in the manner hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a top view of my improvement in brakes, and represents them as arranged on the trucks of a car. Fig. 2 is a longitudinal section of the car and its trucks when cut through at line *y* of Fig. 1, and represents a side elevation of my improvement in brakes. Fig. 3 represents a longitudinal section of the axle of the car-wheels and a transverse section of the brakes and brake-pulley when cut through at *y'* of Fig. 2, and also represents the relation of the brakes to the brake-pulley and the relation of the brakes and pulley to the axle.

The car and its trucks are constructed in any of the known forms and of the usual material.

On the axles *e* of the wheels are placed pulleys C, provided with coniformed peripheries.

To the cross-bars R′ of the truck-frame are attached supports *n* and hangers *g* and *m*. The lower ends of the brakes A, A′, B, and B″ are pivoted to the supports or hangers *m* at the points marked 1. The upper ends of the brakes A and B are pivoted at 2 to the lower ends of the levers *f* and *f′*, which are pivoted to the supports or hangers *g* at the points marked 3. The upper ends of the brakes A′ and B′ are pivoted with wrist-pins, (marked 5,) which move in the slots *o* of the levers *f* and *f′*.

To the upper ends of the levers marked *f′* are attached one end of the chains or cords J, which pass over the friction-rollers P and around pulleys placed in lever *l*, and then attached to the levers marked *f*. The lever *l* is pivoted at *s* to the cross-bar *w* of the frame of the bottom of the car.

To the outer ends, 4, of the lever *l* are attached the cords or chains R, which are connected to the ordinary hand-levers marked *n*.

To the brakes A and A′ are attached spiral springs *h*, which are used for the purpose of "throwing the brakes off" the brake-pulleys C. The brakes and brake-pulleys may be placed, when so desired, close to the wheels, as indicated by the dotted lines marked *x*.

The chains or cord R may be connected with and operated by a lever or other suitable device placed on the locomotive, so that the brake can be operated by the engineer.

As the form, arrangement, and construction of my improvement in brakes will be readily seen and understood by the skillful mechanic by reference to the accompanying drawings, I will therefore, without further description of their construction, proceed to describe their operation, which is as follows: By turning the hand-lever marked *n* it will wind up the chain or cord R, so that it will draw on the lever *l* at 4, which will act on the cords or chains J, which will so operate the upper end of the levers *f* and *f′* as to cause the brakes A, A′, B, and B′ to grasp the brake-pulleys C in proportion to the force exerted on the cords or chains R, and grasp of the brakes on the brake-pulleys will check up and retard the motion of the car-wheels in proportion to the hold of the brakes on the brake-pulleys. The brakes are released by the spiral springs drawing back the brakes A and A′, which will so operate the levers *f* and *f′* as to throw back the brakes B and B′ of the brake-pulley C.

The advantages of my improvement consist in relieving the tread of the car-wheels from the friction and wear of the brakes, thereby avoiding one cause of the wheels becoming uneven on the surface of their tread.

Another advantage of my improvement consists in the simplicity of its construction and

its adaptation to the various constructions of the running-gear of railroad-cars, and the ease and facility afforded for examination of the brakes and making of any repairs which may be necessary.

My improvement also dispenses with the use of the ordinary brake-beam, thereby avoiding a fruitful source of accident to the cars.

Having thus described the nature, construction, operation, and advantages of my improvement, what I claim as of my invention is—

The arrangement of the brakes A A′ B B′, springs *h*, pulleys C, levers *f f′ l*, and cords or chains R J, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

E. N. HUNTSMAN.

Witnesses:
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