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Patented Nov. 8, 1898.

H. J. RAISCH.
COMBINED CAR BRAKE AND FENDER.

(Application filed Apr. 13, 1898.)

(No Model.)

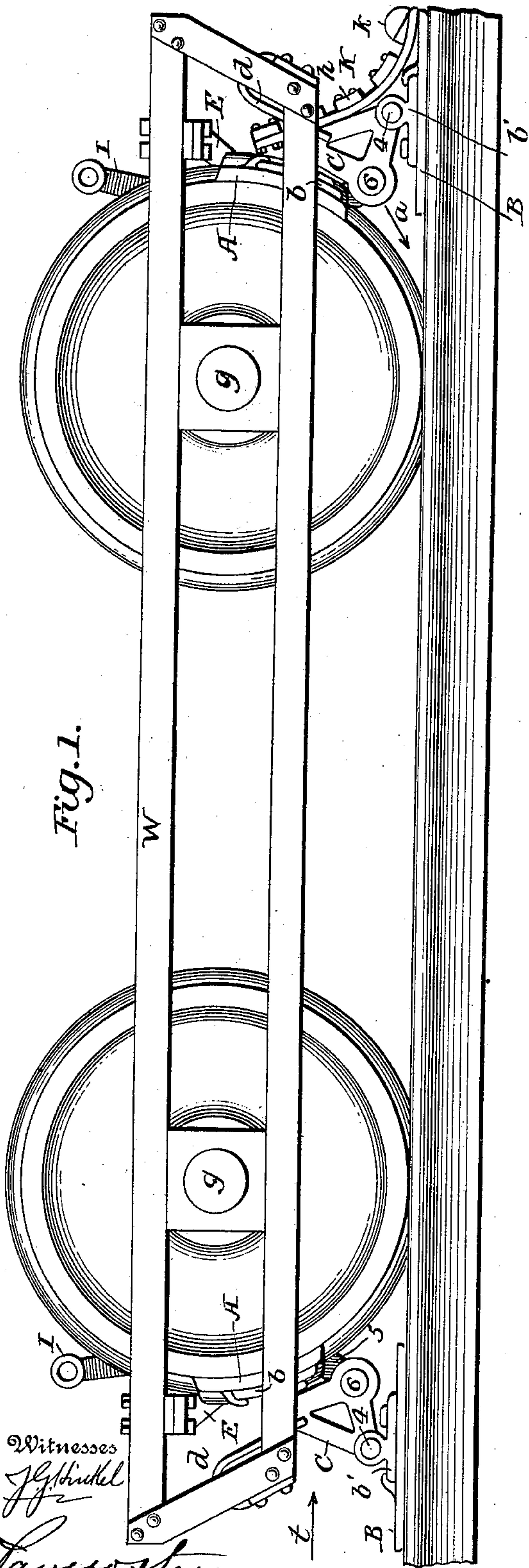


Fig. 1.

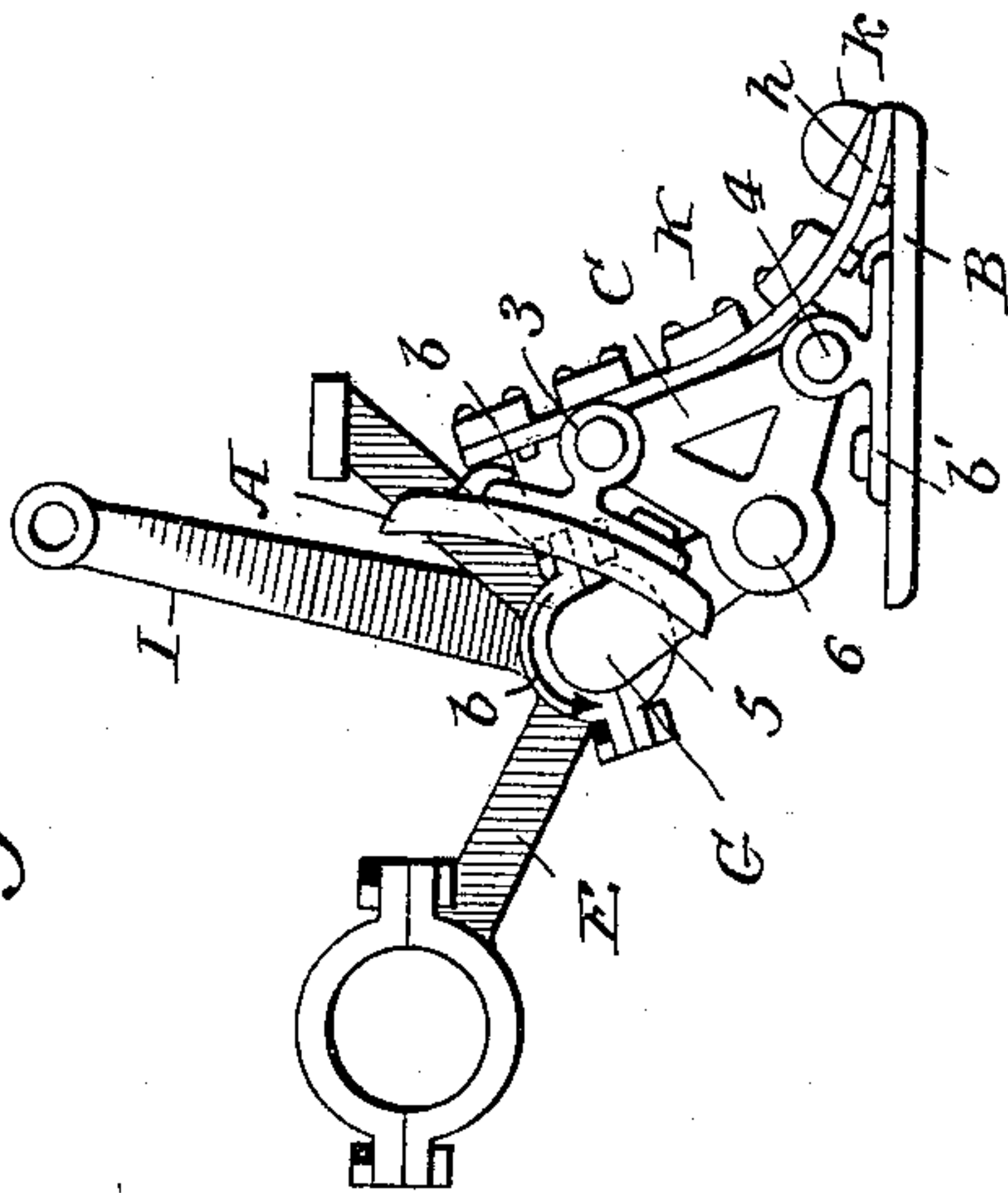


Fig. 3.

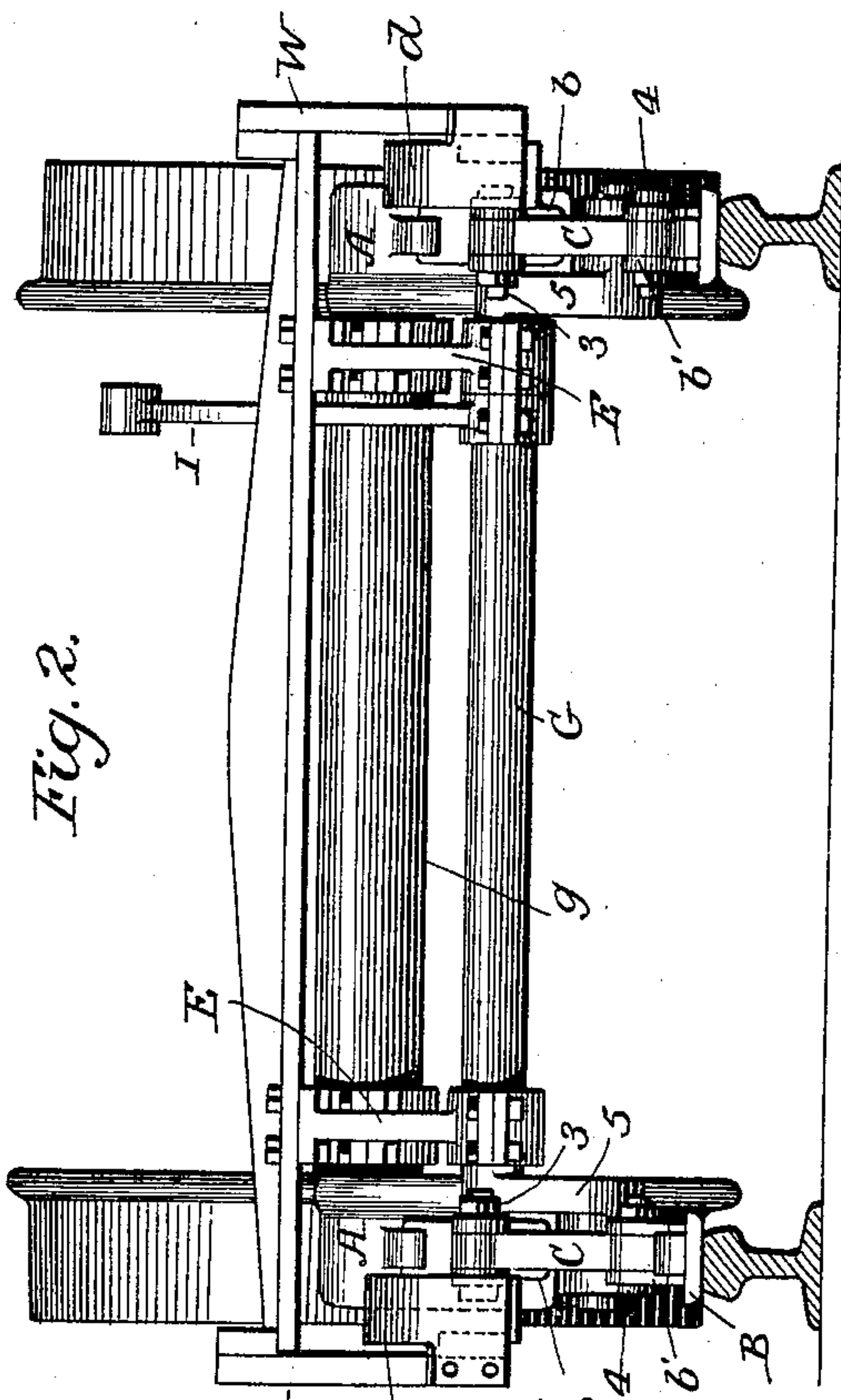


Fig. 2.

Witnesses
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HARRY J. RAISCH, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO BARTON JOSEPHUS PARKER AND GEORGE X. WENDLING, OF SAME PLACE.

COMBINED CAR BRAKE AND FENDER.

SPECIFICATION forming part of Letters Patent No. 613,719, dated November 8, 1898.

Application filed April 13, 1898. Serial No. 677,474. (No model.)

To all whom it may concern:

Be it known that I, HARRY J. RAISCH, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in a Combined Car Brake and Fender, of which the following is a specification.

This invention relates to braking devices especially adapted for heavy cars for city tramways and for those which travel at high speeds and also to fenders for such cars; and the invention consists in so constructing the brake devices and connecting the fenders therewith, as fully set forth hereinafter, that the brakes may be applied with powerful effect and so that the fenders, as well as the brakes, may be held out of position during the normal operation of the car.

In the accompanying drawings, Figure 1 is a side elevation of sufficient of a street-railway car to illustrate my improvements, the brake devices at the opposite ends being in different positions and each provided with a fender, if desired; Fig. 2, an end view looking in the direction of the arrow *t*; Fig. 3, an enlarged view of the brake device detached, the device being shown in connection with the fender.

The brake apparatus is duplex in its character, consisting of a wheel-brake and a track-brake connected together. Thus to a triangular connecting-piece *C* is secured rigidly, but adjustably, by means of a bolt 3, a shoe-carrier *b*, which carries the wheel brake-shoe *A*, and another shoe-carrier *b'*, connected rigidly, but adjustably, by a bolt 4, carries the track brake-shoe *B*. These parts are so supported that by moving the same diagonally in the direction of the arrow *a*, Fig. 1, both the brake-shoe and the track-shoe may be applied to the brake and track, while a reverse movement will relieve both brakes.

The parts may be supported in any suitable manner and connected with any suitable operating devices to permit the two shoes to be carried in and out, as described. One means of support and operation consists of a rock-shaft *G*, having terminal crank-arms 5 5, with wrist-pins 6 6, extending through the connecting-pieces *C C*, so that by turning the

shaft in the direction of the arrow *b*, Fig. 1, both brake-shoes of each brake apparatus may be removed, while a reverse motion will apply them both. As the wrist-pins 6 6 turn freely in the connecting-pieces *C*, either of the brake-shoes may take its bearing ahead of the other without interfering with the application of each.

The shaft *G* is mounted in any suitable bearing, but should be carried by some part of the car structure that has no vertical movement in respect to the track. A preferable support consists of a bracket *E*, adjacent to each wheel, having two arms, one with a divided socket-piece to permit the end of the arm to be hung upon the axle *g* and the other with a flange by means of which it may be bolted to one of the side bars of the frame *W*, supported, as usual, upon the axles. The rock-shaft *G* is operated by means of an arm *I*, extending upward through or adjacent to the platform of the car in position for the driver or motorman to readily apply his foot thereto.

As the brakes should normally be held out of position, I provide the same with a detent of any suitable character. As shown, each detent is in the form of a spring *d*, having an inclined end and supported by an arm or bracket or other part of the frame *W*. The inclined arm of each spring extends beneath the hub of the shoe-carrier *b*, and when the latter is lifted the said arm extending beneath the hub, which rests frictionally thereon, will hold the brake device in its elevated position without preventing the descent of the said device when sufficient power is applied to rock the shaft *G*.

The brake device above described may be used in connection with the ordinary brakes as an emergency-brake or it may constitute the regular braking means of the car. Inasmuch as the two brake-shoes are at an angle to each other and when applied are carried diagonally into a space formed by the edge of the wheel and the face of the rail, which gradually contracts, the brake device acts in a manner like a wedge, the movement of the wheel and the friction on the rail tending to draw the device into the contracting space and insuring such prompt application

of the brake-shoes and such increasing pressure as will bring even a heavy loaded car upon an incline to a very abrupt stop. At the same time the construction is such that
5 a slight movement of the shaft G will serve to withdraw the brakes.

The braking apparatus above described may be used alone or in connection with any suitable fender. When a fender is used, I
10 prefer the arrangement illustrated in the drawings, in which the fender K consists of a series of slats carried by two straps *h*, which may be of metal or otherwise. As shown, they are curved metal straps secured to the
15 connecting-pieces C and to the shoe B. As thus supported by the brake devices the fenders are normally at the proper elevation above the roadway; but when the brake devices are applied to arrest the car the fender
20 is also carried downward into safety position. The fender will also serve as a means of facilitating the action of the brake, because if it strikes a heavy body it will be forced downward, carrying the braking devices with
25 it into braking position.

If desired, there may be an inflated pneumatic tube *k* at the lower edge of the fender, which serves to prevent injury to any one that may be struck by the fender.

30 Without limiting myself to the precise construction shown, I claim as my invention—

1. A car-brake comprising a connecting-piece, a wheel-shoe and a track-shoe carried upon said connecting-piece, means for adjusting said shoes angularly relative to each
35 other and devices for carrying the connecting-piece in a diagonal line to and from the wheel and track, substantially as described.

2. The combination in a braking device, of
40 a wheel-shoe, track-shoe and intermediate connecting-piece constituting the sole support for the shoes, each shoe being pivotally

attached to the connecting-piece, and a shaft having a crank-arm to which the connecting-piece is hung, substantially as set forth. 45

3. The combination with a car, of a braking device consisting of a connecting-piece, a wheel-shoe and a track-shoe supported upon the connecting-piece and adapted to be angularly adjusted relative to each other, a
50 rock-shaft having a crank-arm to which the connecting-piece is pivotally attached and an arm on the rock-shaft extending through or adjacent to the platform of the car, substantially as described. 55

4. The combination with a car, of braking devices each having a wheel-shoe and a track-shoe arranged at an angle, means for moving the braking devices into and out of position, and detents consisting of springs having inclined ends adapted to engage parts of the
60 braking devices, substantially as set forth.

5. The combination of the braking devices provided with wheel-shoes and track-shoes, a rock-shaft having arms to which the braking
65 devices are pivoted, and brackets carrying the rock-shaft, and each connected to the truck-frame and having a bearing upon the adjacent axle, substantially as set forth.

6. The combination with the crank-shaft, 70 G, and connecting-piece, C, pivoted to the crank-arms thereof, of brake and track shoes supported wholly by the connecting-piece and adapted to be adjusted at an angle relative to each other, and a fender extending
75 between and carried between the shoes, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY J. RAISCH.

Witnesses:

A. V. MCCABE,

GEORGE F. HATTON.