A. M. ALLEN.

Car-Brake.

No. 98,731.

2 Sheets—Sheet 1.

Patented Jan. 11, 1870

Fig: 1.

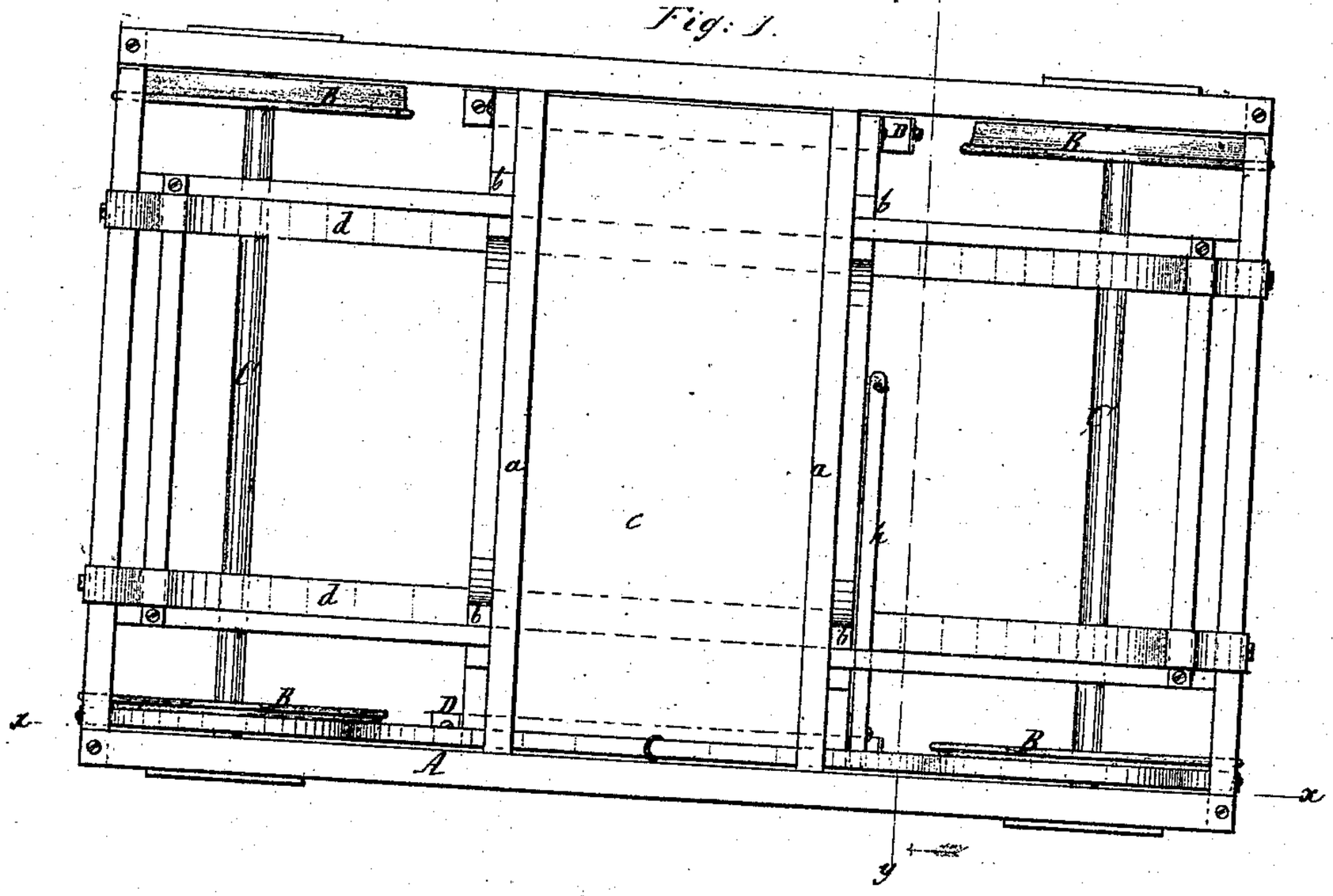
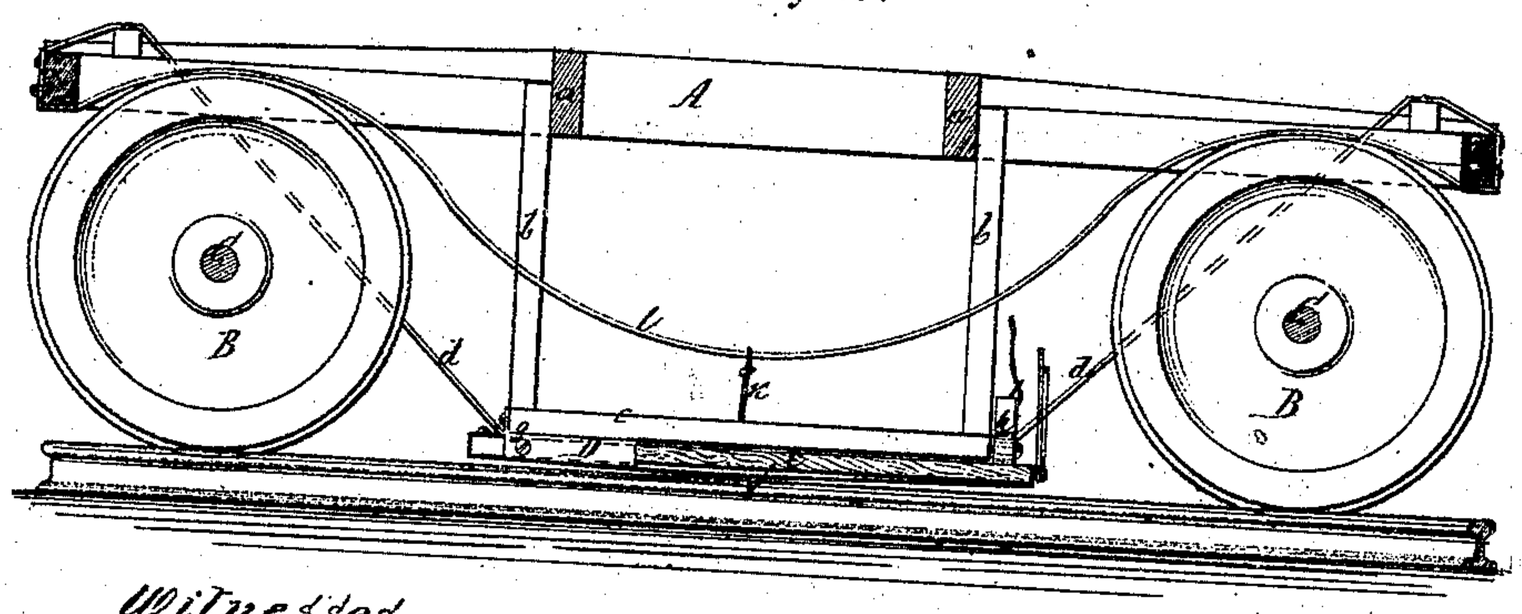


Fig: 2.



Witnesses.

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E. F. Kastenhuber

Inventor:

Arthur M. Allen

by

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2 Sheets—Sheet 2

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Fig. 3.

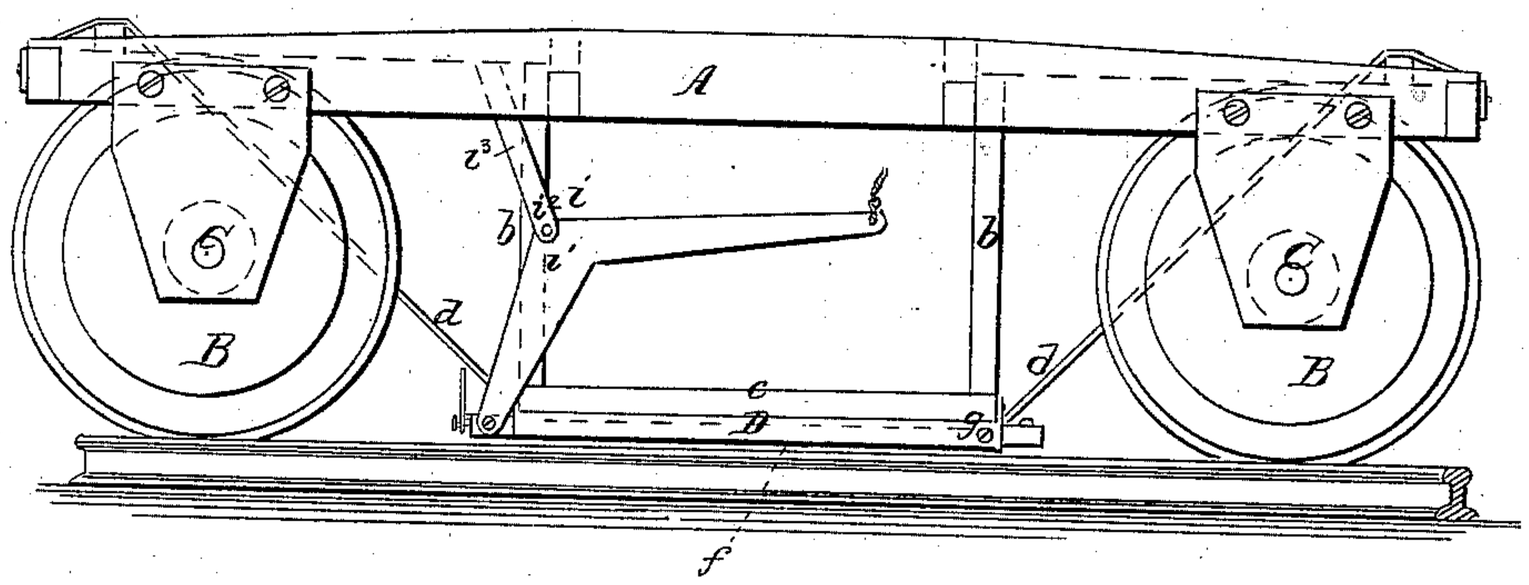
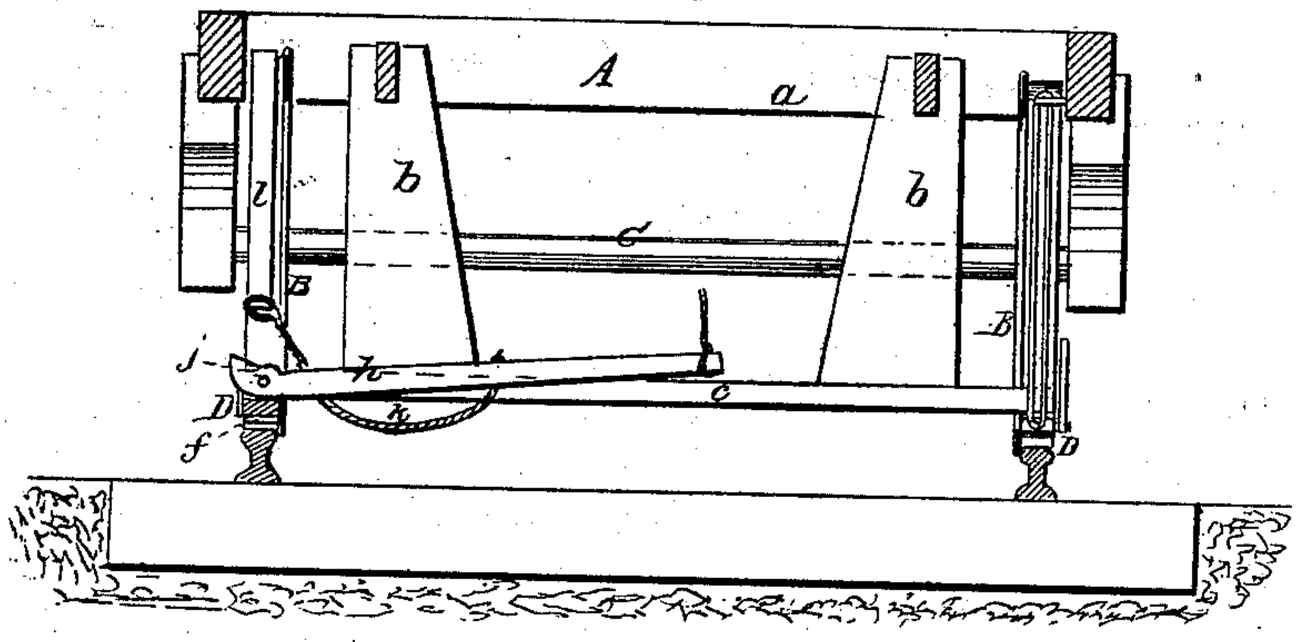


Fig. 4.



Witnesses
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ARTHUR M. ALLEN, OF NEW YORK, N. Y.

Letters Patent No. 98,731, *dated January* 11, 1870.

IMPROVEMENT IN 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 I, ARTHUR M. ALLEN, of the city, county, and State of New York, have invented a new and useful Improvement in Car-Brakes; and I 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 plan or top view of this invention.

Figure 2 is a longitudinal vertical section of the same, the line *x x*, fig. 1, indicating the plane of section.

Figure 3 is a side elevation of the same.

Figure 4 is a transverse section of the same, taken in the place indicated by the line *y y*, fig. 1, and looking in the direction of the arrows opposite that line.

Similar letters indicate corresponding parts.

This invention relates to a car-brake, in which hinged track-shoes are used, which are depressed upon the track or the rails, either by means of a lever-cam, or by the action of a bell-crank toggle.

The faces of the track-shoes are secured to rigid blocks, and they are made elastic, and so arranged that they can accommodate themselves to the unevenness of the track without requiring any extra springs or elastic cushions.

The blocks of the shoes and the faces are so constructed that only a portion of the face is brought into action at a time; and, if this portion has been worn out, the face can be reversed, and its remaining portion be brought into action.

With the track-shoes are combined friction-straps, each of which can be made to bear simultaneously on both wheels on one side of a truck, and which are operated by the same mechanism that serves to operate the track-shoes.

The beams, to which the track-shoes are attached, are braced or supported by suitable braces or straps.

In the drawing—

The letter A designates the frame of a truck, which rests on four wheels, B B, mounted on axles C, in the usual manner.

To the transverse timbers *a* of this truck are secured the hangers *b*, which support the beam *c*, to which are attached the brake-shoes D.

The beams *c* are braced or supported in their position by straps *d*, extending from the ends of the truck-frame, through under said beams, as shown in figs. 2 and 3.

These straps may, however, be replaced by braces of any other construction, capable of imparting to the beams *c* the requisite firmness.

The brake-shoes D act on the rails, instead of on the wheels, as usual, and I therefore term them "track-shoes." They are composed of strong blocks, *e*, of iron or any other suitable material, to which the faces *f* are secured by means of screws, or in any other desirable manner.

These faces are made of elastic metal plates, steel being preferred, and they are attached to the blocks *e* in such a manner that they can yield, and accommodate themselves to the inequalities or unevenness of the track on which they are brought to bear.

The blocks *e* are connected to the beams *c* by means of hinge-joints *g*, and their loose ends are subjected to the action of a lever-cam, *h*, as shown in fig. 4, or to that of a bell-crank toggle, *i*, as shown in fig. 3, so that, by said lever-cam or bell-crank toggle, the faces of the track-shoes can be brought to bear on the tops of the rails, and thereby the motion of the truck is checked.

The lever-cam is secured to the end of one of the beams *c*, and it has its fulcrum on a pivot, *j*, so that, by raising the inner end of the same, its cam-shaped outer end bears on the block of the track-shoe, and depresses the same upon the rail below.

The pivot *j* may be made adjustable, so that the position of the lever-cam can be accommodated to any wear taking place in the face of the track-shoe.

The bell-crank toggle *i* consists of a bell-crank lever, i^1, which is pivoted to the block of the track-shoe, and has its fulcrum on a pivot, i^2, in the end of an arm, i^3, as seen in fig. 3, so that, by raising the loose arm of the bell-crank, the arm i^3, together with the pivoted arm of the bell-crank, acts as a toggle, whereby the track-shoe is depressed with great force.

The track-shoes, being hinged at one end, are so constructed, that by depressing them upon the rails, a portion of their faces only is brought into action; and, if this portion of the faces has worn out, said faces can be detached and reversed, so that the remaining portion will come into action.

The lever-cam *h*, which serves to depress the track-shoes, is also connected, by means of a rope or chain, *k*, with a friction-strap, *l*, which extends over the two wheels on one side of the truck, (see figs. 2 and 4,) so that, by the action of said lever-cam, the friction-strap *l* is caused to bear upon the peripheries of the wheels, while, at the same time, the track-shoes are depressed upon the rails.

By these means, the motion of the truck can be effectually stopped with comparatively little power.

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

1. The arrangement of hinged "track-shoes" D, constructed and operating substantially as described.

2. The arrangement of elastic or yielding faces *f* on the rigid blocks *e* of the track-shoes, substantially as set forth.

3. The track-shoe D, pivoted at one end, leaving

its other end free, in combination with the cam-lever *h*, bearing against said free end, and operating as set forth.

4. The bell-crank toggle *i*, in combination with the track-shoes D, constructed and operating substantially as set forth.

5. The single strap *l*, passing over all wheels of each side of the truck, in combination with a brake, acting against the track, and both operated simultaneously by a single lever, the whole as set forth.

6. The beam *c*, in combination with track-shoes, substantially as set forth.

7. The reversible straps *f*, forming the faces of the track-shoes, in combination with the blocks *e*, substantially as described.

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Witnesses:
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