

(No Model.)

L. J. COUCH.
SAFETY DEVICE FOR CARS.

No. 504,078.

Patented Aug. 29, 1893.

Fig. 1.

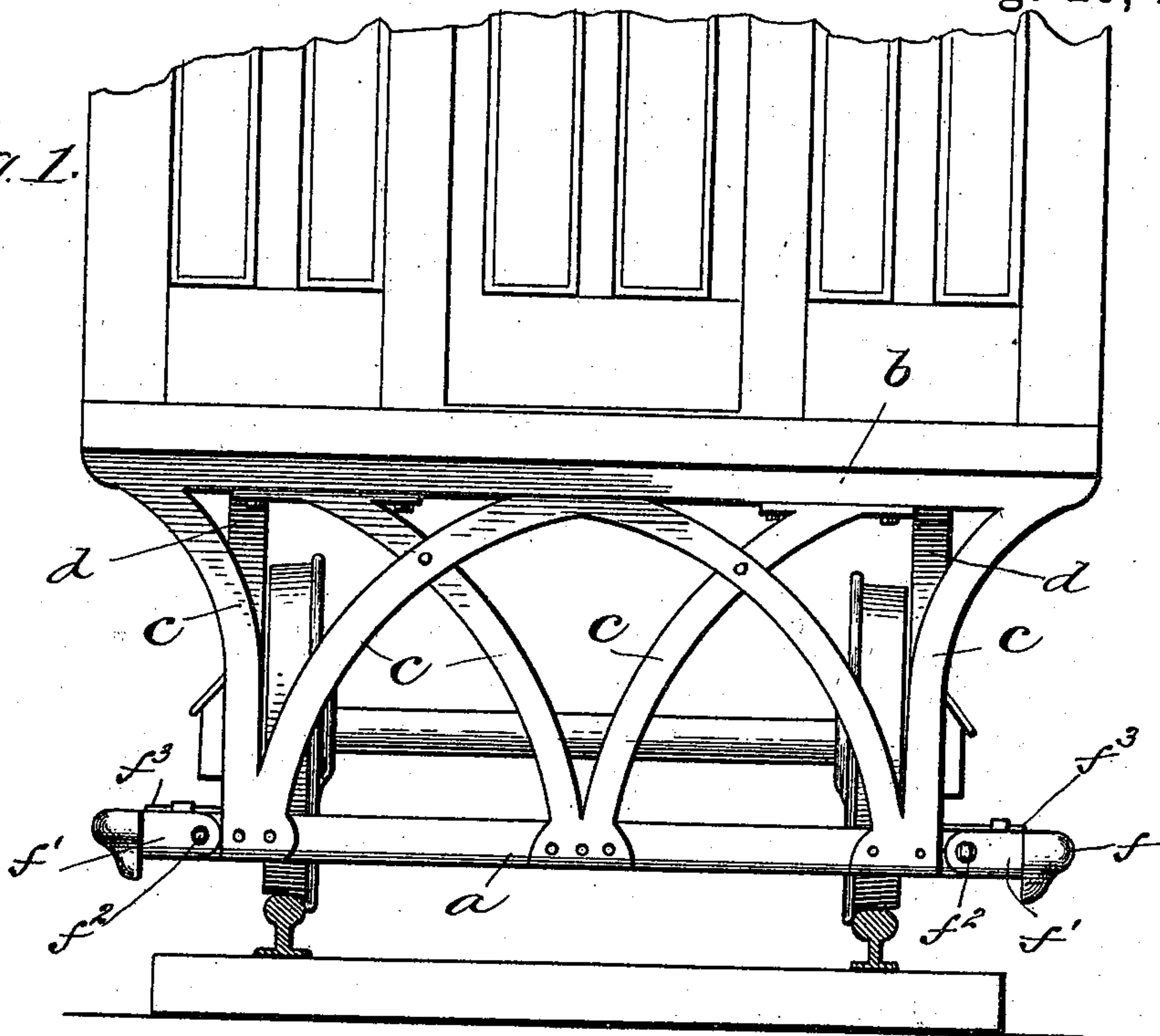


Fig. 2.

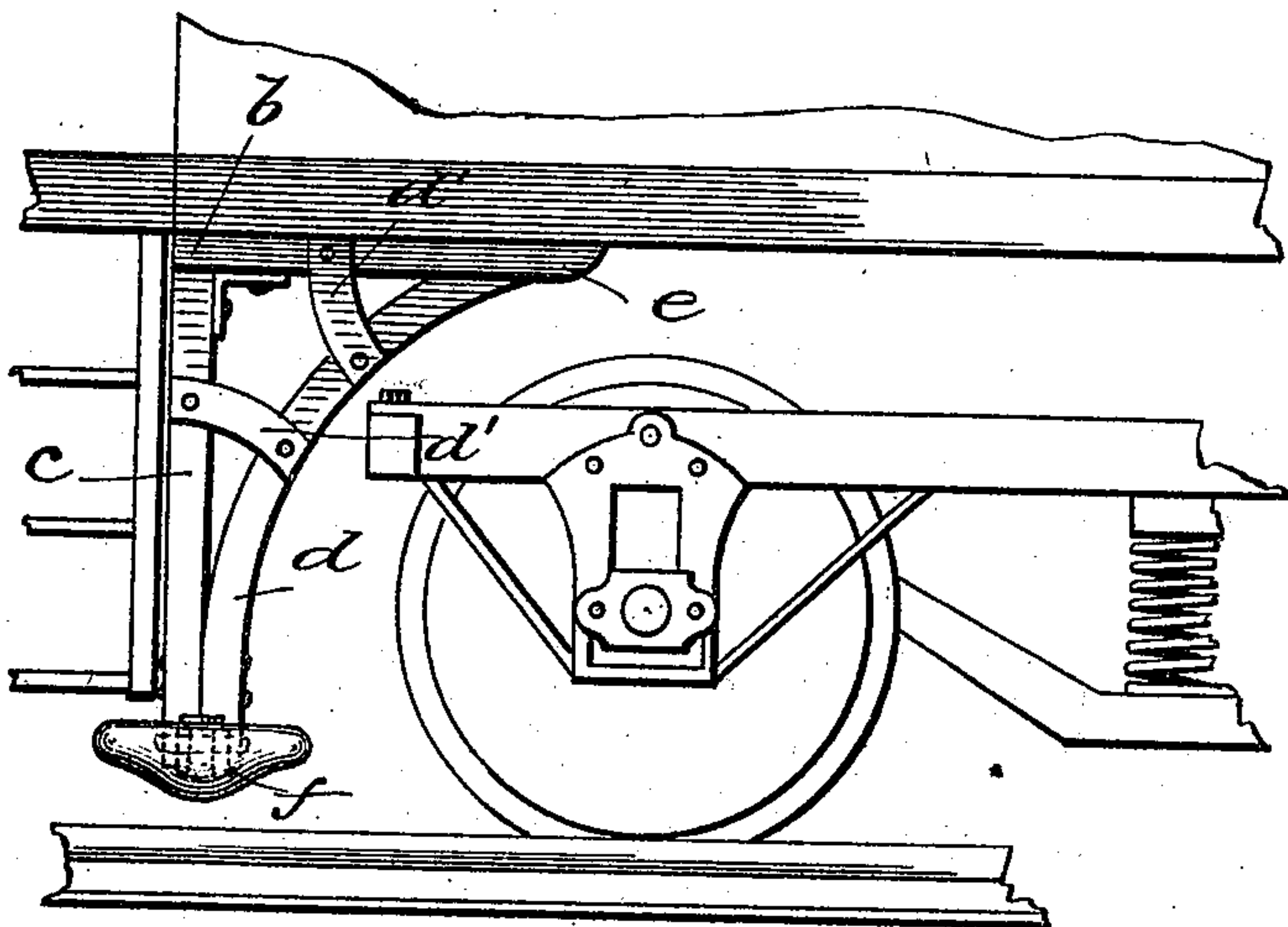
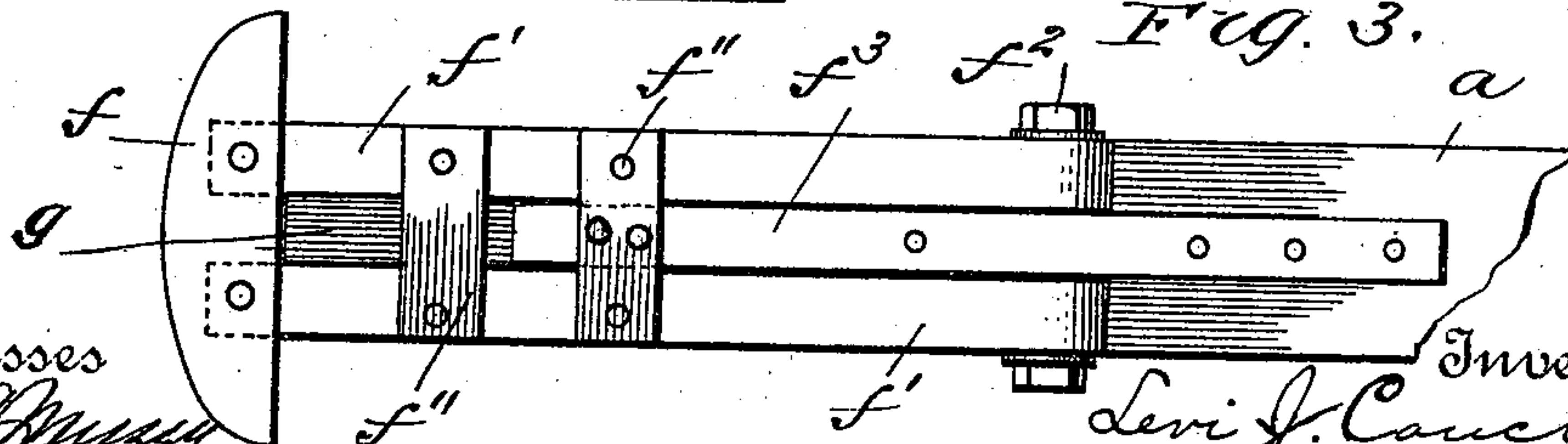


Fig. 3.



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SAFETY DEVICE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 504,078, dated August 29, 1893.

Application filed May 2, 1893. Serial No. 472,659. (No model.)

To all whom it may concern:

Be it known that I, LEVI J. COUCH, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Safety Devices for Railway-Cars, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is an end view of a car showing the preferred form of my safety device; Fig. 2 a side elevation thereof; and Fig. 3 a plan view of one of the spring-actuated shoes at the ends of the transverse bar.

This invention is designed to provide a railway-car with a safety device which will be independent of the trucks and which will be so arranged that it will support the car and permit the same to move along the rails in case of accident to any of the wheels or trucks, as is more fully hereinafter described.

In the drawings *a* designates a strong transverse bar, which extends across the road-bed, a few inches above the rails, and projects out on either side of the same a suitable distance. The lower side of bar *a* is rounded and is preferably supported about on a level with the lower edge of the cow-catcher, so that whatever obstructions the latter passes will not interfere with the bar. The bar *a* is connected rigidly by a series of very strong braces *c* to another transverse bar *b* bolted strongly to the under side of the car-beams. The bar *a* is further braced by a suitable number of curved braces *d*, which extend rearwardly under the car and are bolted rigidly to beams *e*, extending rearwardly from the beam *b* and secured to the car, said braces *d* being sufficiently curved to avoid interference with the adjacent truck. The braces *d* may be further braced by short braces *d'*, as shown in Fig. 2.

Vertically movable shoes *f* are carried on the ends of the bar *a*, these shoes being beveled and rounded on their lower and exterior sides but made straight on their inner sides. The lower edges of the shoes normally depend a short distance below the lower edge of bar *a* and they extend transversely to said bar and parallel with the rails. Each shoe is connected rigidly to two separated bars *f'*, connected rigidly together by plates *f''*, se-

cured on their upper sides, said bars closely embracing the reduced end *g* of the bar *a* and being pivoted thereto at their inner ends by a horizontal transverse bolt *f²*. A strong flat spring *f³* is riveted to bar *a* and its free end is riveted under one of the transverse plates *f''*. This construction permits the shoes to yield upwardly in passing crossings and other obstructions, their springs serving to keep them strongly pressed down to their normal positions.

In case the body of the car is let down, by an accident to one of the trucks or wheels, it will be observed that the rigid bar *a* will immediately come to rest on the rails and ride along the same and support the car until the train can be stopped. The bar bearing directly on the rails and supporting a portion of the weight of the car, will act as a powerful rail-brake, which will serve to materially assist in automatically stopping the train and notifying the engineer of the accident. Inasmuch as the car will have but a slight fall before the bar strikes the rail, the bar and its braces may be readily made sufficiently rigid to withstand the strain. The shoes at the ends of the bar serve to prevent the same leaving the track, and by extending the bar a considerable distance beyond each side of the truck, it will be observed, there will be no danger that an accident will throw the car far enough to one side or the other to prevent the shoes engaging the outer sides of the rails. While the bar is riding on the rails, should an obstruction, such as a switch-rail, cross-rail, &c., be encountered by the shoes they will automatically rise sufficiently to pass over the obstruction and will quickly spring into place again. To facilitate the passage of the shoes over variously shaped obstructions, they are tapered toward each end and are rounded and beveled, as shown and described. The advantage of carrying the ends of the bars close to the shoes—by means of the extensions *g*—is that said extensions will bear upon the rails and prevent the weight of the car from raising the bars *f'* of the shoes, as is evident.

As the most frequent railroad accidents result from accidents to the wheels and trucks, it is evident that a reliable safety device that

is entirely independent of the trucks will serve to save much property and many lives.

My device is not costly, but quite simple in construction and may be attached to cars of the usual construction without altering them.

The device will also act as a fender and assist in saving lives, and it will not be unsightly, as it will be practically hidden by the steps of the car.

The device may be attached at other points besides at the ends of the cars as shown, if desired.

Having thus fully described my invention, what I claim is—

1. The combination with a car supported on trucks of a rigid transverse bar extending under the body of the car and connected to the same by a series of rigid braces, the bar being supported a short distance above the rails and extending outwardly on each side

of the same and provided with shoes, substantially as described.

2. The combination of a car and truck, a rigid transverse bar connected to the car and extending outwardly on each side of the rails, and an upwardly-yielding shoe on each end of the bar, substantially as described.

3. The combination of a car and a truck, a rigid frame depending from the car and carrying a rigid transverse bar at its lower end, a shoe pivoted on each end of the bar and depending below the lower edge of the bar, and springs normally holding said shoes, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LEVI J. COUCH.

Witnesses:

H. N. FOLLANSBEE,
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