(No Model.)

A. BERNSTEIN & A. GOLDSTEIN.

SAFETY APPLIANCE FOR RAILWAYS.

No. 346,018. Patented July 20, 1886.

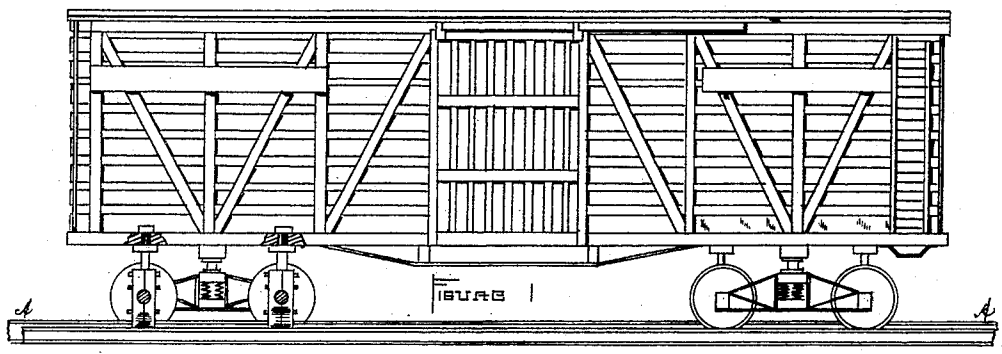


FIGURE 1

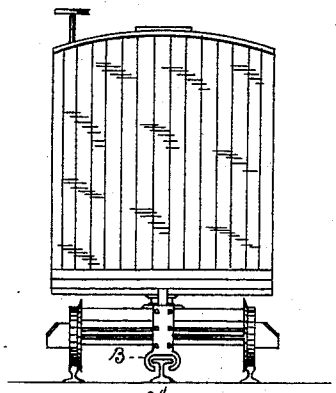


FIGURE 2

FIGURE 3

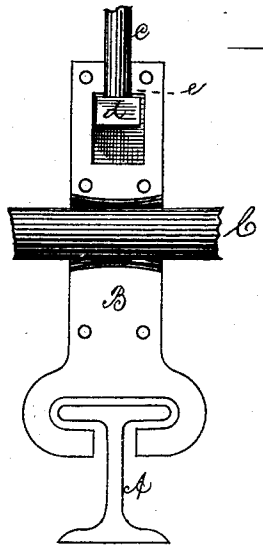
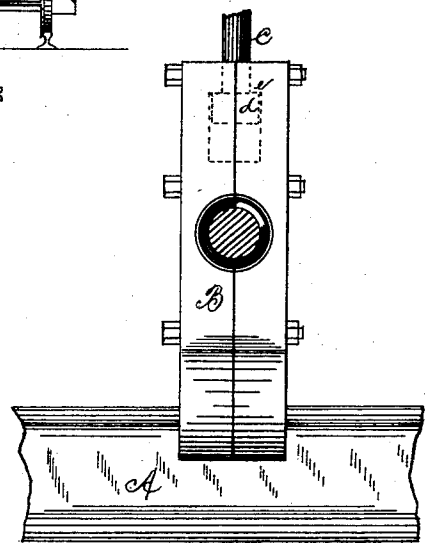


FIGURE 4



Witnesses.
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UNITED STATES PATENT OFFICE.

ADOLPH BERNSTEIN AND ABRAHAM GOLDSTEIN, OF PITTSBURG, PA., ASSIGNORS OF ONE-SIXTH TO ALEXANDER FINK, OF SAME PLACE.

SAFETY APPLIANCE FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 346,018, dated July 20, 1886.

Application filed March 10, 1886. Serial No. 194,706. (No model.)

To all whom it may concern:

Be it known that we, ADOLPH BERNSTEIN, a citizen of the United States, and ABRAHAM GOLDSTEIN, a citizen of Russia, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Railway Appliances; and we hereby declare the following to be a full, clear, and exact description thereof, reference being had to the drawings, forming part of same.

Our invention relates both to the roadway and to the rolling-stock of railways, and is especially designed to prevent the locomotives and cars from leaving the track when in transit.

Our invention consists in putting a girder in the middle of the track, and, second, in attaching a gripping-arm to the rolling-stock in such a manner that the gripping-arm shall inclose the upper section or head of the girder in such a manner that when the wheels of the vehicle leave the track from any cause the gripping-arm will grip the girder and prevent the carriage from leaving the track.

In the drawings, Figure 1 is a side elevation of a freight-car, partly in section, showing our improved apparatus in place. Fig. 2 is an end view of same. Fig. 3 is an inside view of the gripping-arm. Fig. 4 is a side view of same.

In the construction of our improved railway appliances we use an iron or steel girder, A, about seven inches high, and having flanges about four inches wide, the top flange being thicker than on ordinary girders, and having square or full edges, as shown in the drawings. This girder is placed between the rails in the middle of the track, and well fastened to the ties. We then construct a gripping-arm, B, of iron or steel, such as shown in Figs. 3 and 4. The lower end of gripping-arm B is made so as to envelop the head of girder A, as shown in Fig. 3. At the proper distance from the bottom there is an opening through arm B, so that it may envelop the axle C. The upper end of arm B is made hollow, to allow for the insertion of the bolt *c* and the free play of its head *d*. This opening is so made that the head *d* shall work freely up and down with a certain limit, but will not allow the bolt to be withdrawn when in use, as the head cannot pass beyond the shoulder *e*. This bolt is then, at its upper end, attached to the bolster or to the floor of the car, and fastened tightly to it. This gripping-arm is made in two sections, so as to be easily put on or taken off. We only place the girder on the main tracks, and at such points where there are no switches, as there is but little danger of the cars running off the tracks where they do not run at high speed. The girders should be about three inches higher than the rails, so that the gripping-arms may pass over the head of the rails at crossings.

We attach our gripping-arms to each locomotive and car. While in ordinary practice two of our gripping-arms will be sufficient, still three or more may be applied to each car.

In the practice of our invention, when the girders have been put in position and properly fastened and the train of locomotive and cars have been furnished with gripping-arms, the train starts off, (there being no girder within a hundred yards of the depot.) When it arrives at the girder, the gripping-arms inclose its head, but not so as to rub or produce any friction. Now, when the train and the track are thus equipped, the up-and-down movement of car-bed causes a corresponding movement of the bolt *c* in the gripper B, and when the car-wheels tend to leave the rail from any cause the gripper B grips the girder and holds the cars on the track and prevents the destruction of the train.

In practice we prefer to place two of our gripping-arms on each locomotive; but, whether they are placed on the locomotive or not, care must be taken to slot out the forward end of the cow-catchers, so as to permit it to pass the girders without friction.

What we claim, and desire to secure by Letters Patent, is—

1. The combination, with a railroad-track, of a flanged girder, a gripper carried by the car and inclosing the flanges of the girder, said gripper having an enlarged opening at

its upper end, and a headed bolt secured to the car and fitting in said opening, substantially as set forth.

2. The combination, with a railroad-track and the flanged girder, of the gripper having an opening for the passage of the axle, said gripper having an opening in its upper end, and a headed bolt secured to the car and fitting in said opening, as set forth.

ADOLPH BERNSTEIN.
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Witnesses:
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