

(No Model.)

E. HENN.

SAFETY ATTACHMENT FOR RAILWAY CARS.

No. 261,923.

Patented Aug. 1, 1882.

Fig. 1.

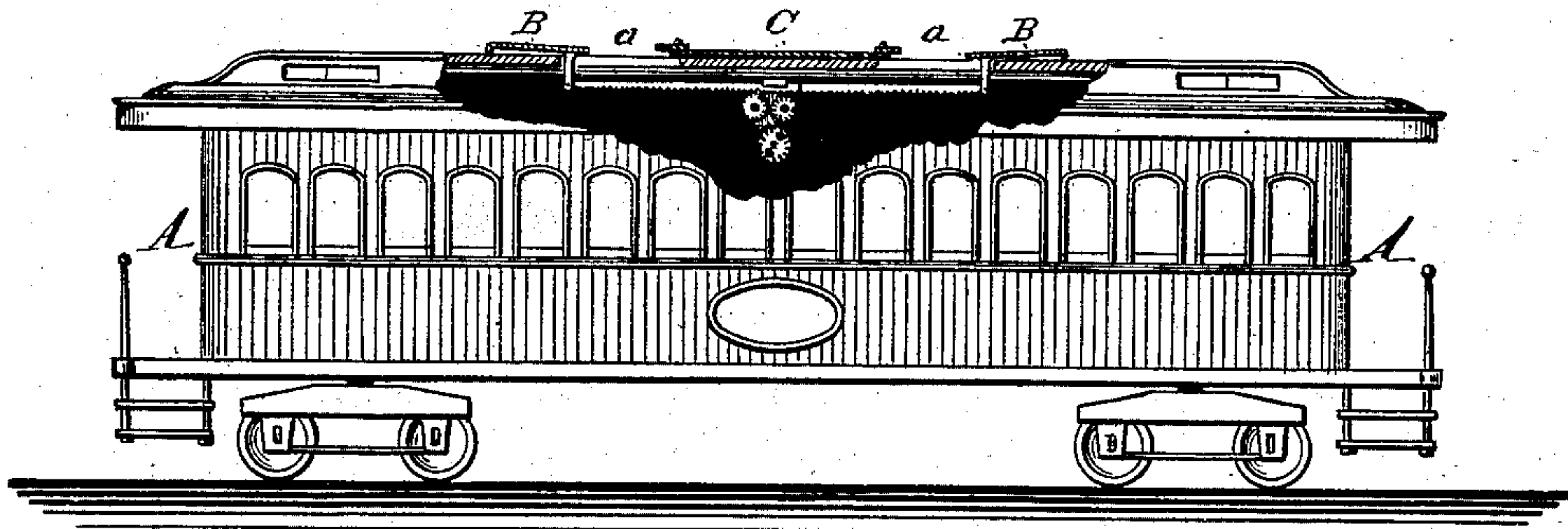


Fig. 2.

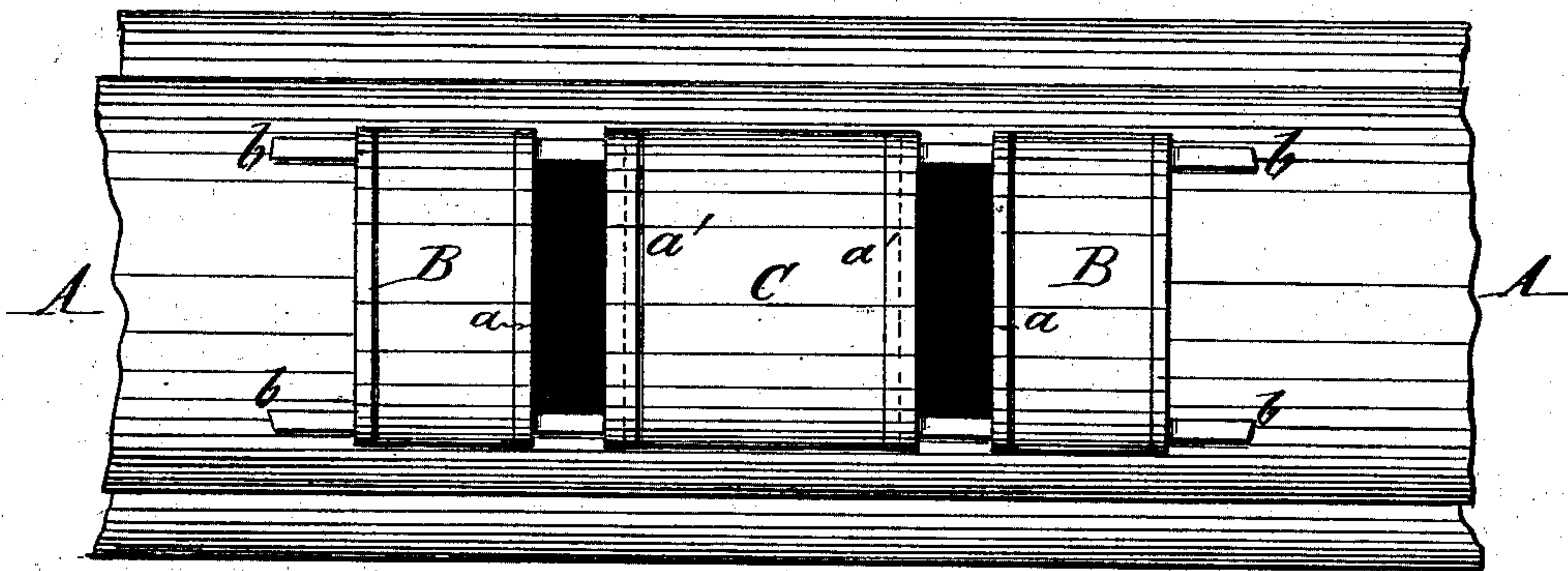
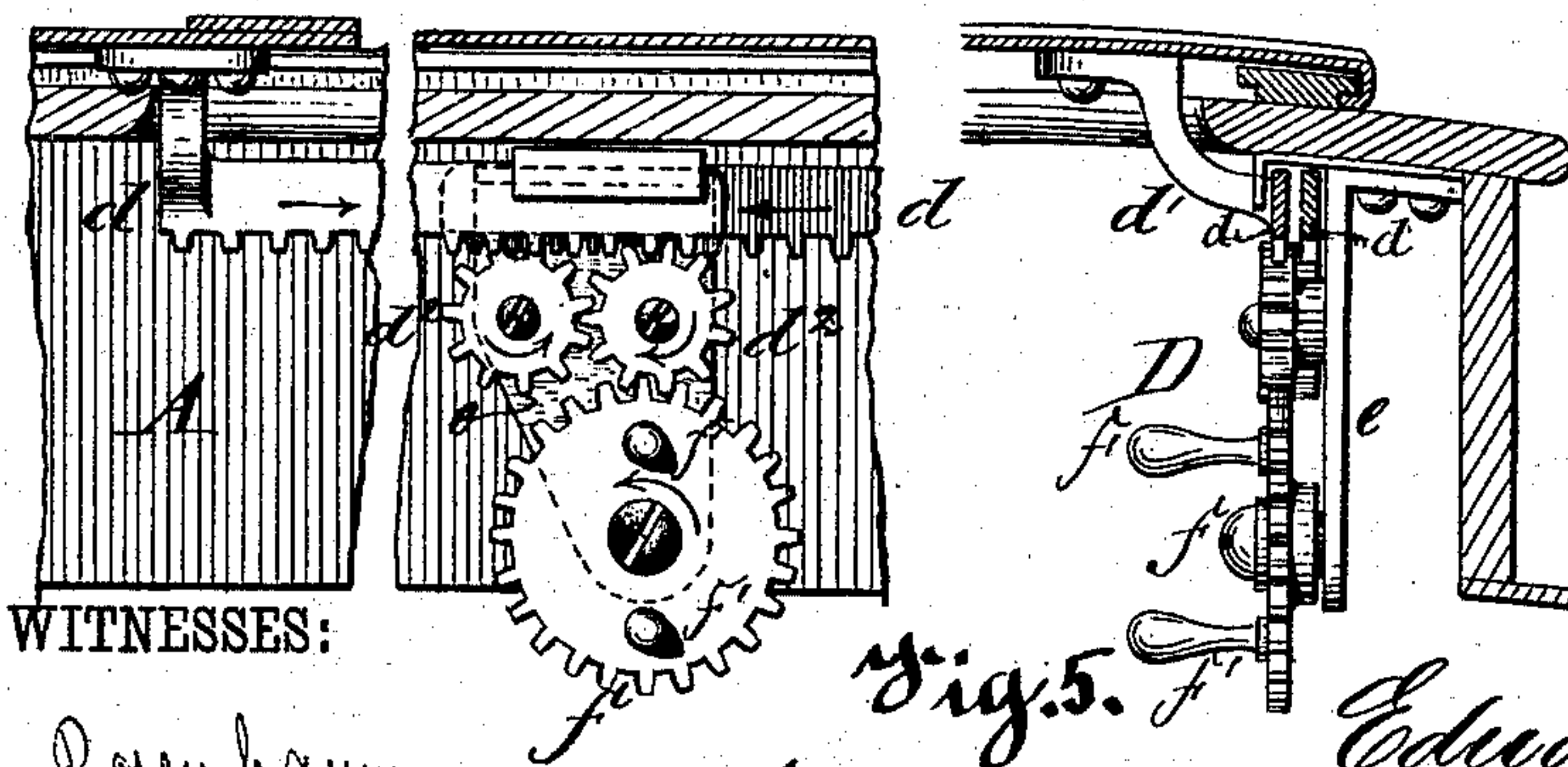


Fig. 3.

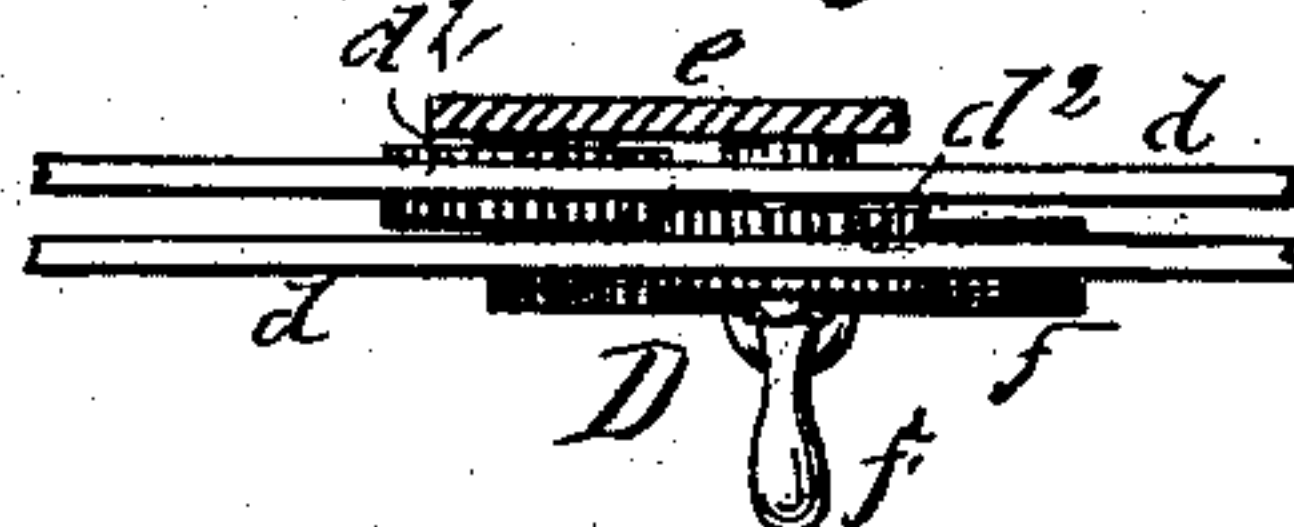
Fig. 4.



WITNESSES:

*W. H. Rosenbaum.*  
*Otto Pisch.*

Fig. 5.



INVENTOR

*Eduard Henn*  
BY *Franz Goepfer.*  
ATTORNEY



# UNITED STATES PATENT OFFICE.

EDUARD HENN, OF JERSEY CITY, NEW JERSEY.

## SAFETY ATTACHMENT FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 261,923, dated August 1, 1882.

Application filed June 1, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, EDUARD HENN, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Safety Attachments for Cars, of which the following is a specification.

This invention relates to an improved safety attachment for cars, whereby the occupants can conveniently escape from the car in case the same is thrown off the track and on its side, set on fire, or otherwise wrecked; and the invention consists of a railroad-car provided with escape-openings in the roof, and with sliding roof-sections actuated by suitable mechanism from the inside of the car.

In the accompanying drawings, Figure 1 represents a side view, partly in longitudinal section, of a railroad-car with my improved safety attachment. Fig. 2 is a top view of the same on a larger scale; and Figs. 3, 4, and 5 are a detail side view, end view, and plan of the mechanism for operating the sliding sections of the car-roof.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a railroad passenger-car, the roof of which is provided with one or more escape-openings, *a*, of sufficient size for admitting the passage of a person. The escape-openings *a* are closed by sliding roof-sections B, the flanged sides of which are guided in longitudinal ways *b* on the roof. The sliding roof-sections B are fitted to overlapping flanges *a'* of the intermediate fixed roof-section, C. The sliding roof-sections B are operated by a suitable actuating mechanism, D, which consists of two rack-bars, *d*, that are connected by fixed arms *d'* to the sliding roof-sections B. The rack-bars *d* are guided in suitable ways secured to the inside of the car-roof. The rack-bars *d* are moved in opposite directions by means of pinions *d<sup>2</sup>*, which are turned in opposite direction to each other

by a gear-wheel, *f*, having handles *f'* for operating the same. The rack-bars *d d* are arranged at such a distance from each other that the pinions *d<sup>2</sup>* can mesh with each other in the space between the racks, as shown in Fig. 5. The first pinion *d<sup>2</sup>*, which is engaged by the gear-wheel *f*, is made wide enough to engage the second pinion *d<sup>2</sup>*, which engages the second rack-bar, so that by turning the actuating gear-wheel *f* the rack-bars are moved in opposite directions, and thereby the sliding roof-sections on the top of the car are opened or closed. The shafts of the pinions and actuating gear-wheel are supported by a fixed hanger-plate, *e*, applied to the roof of the car, as shown in Figs. 3 and 4.

In place of the actuating mechanism described, any other equivalent operating mechanism may be used for moving the sliding roof-sections, as I do not confine myself to the specific construction shown.

The invention is specially designed for passenger and railway mail cars, as it furnishes a simple and convenient means whereby passengers and employes may escape from the car when the same is thrown over on its side and set on fire or otherwise wrecked.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

As an improvement in railway-cars, the combination of the car-roof having transverse escape-openings, with sliding roof-sections, guiding-ways, and mechanism arranged at the interior of the car, consisting of two rack-bars, *d d*, arms *d'*, pinions *d<sup>2</sup>*, turned in opposite directions to each other, gear-wheel *f*, handles *f'*, and hanger-plate *e*, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

EDUARD HENN.

Witnesses:

PAUL GOEPEL,  
SIDNEY MANN.