

No. 766,056.

PATENTED JULY 26, 1904.

E. MORAN.
CAR BUMPER.

APPLICATION FILED DEC. 30, 1903.

NO MODEL.

Fig. 1.

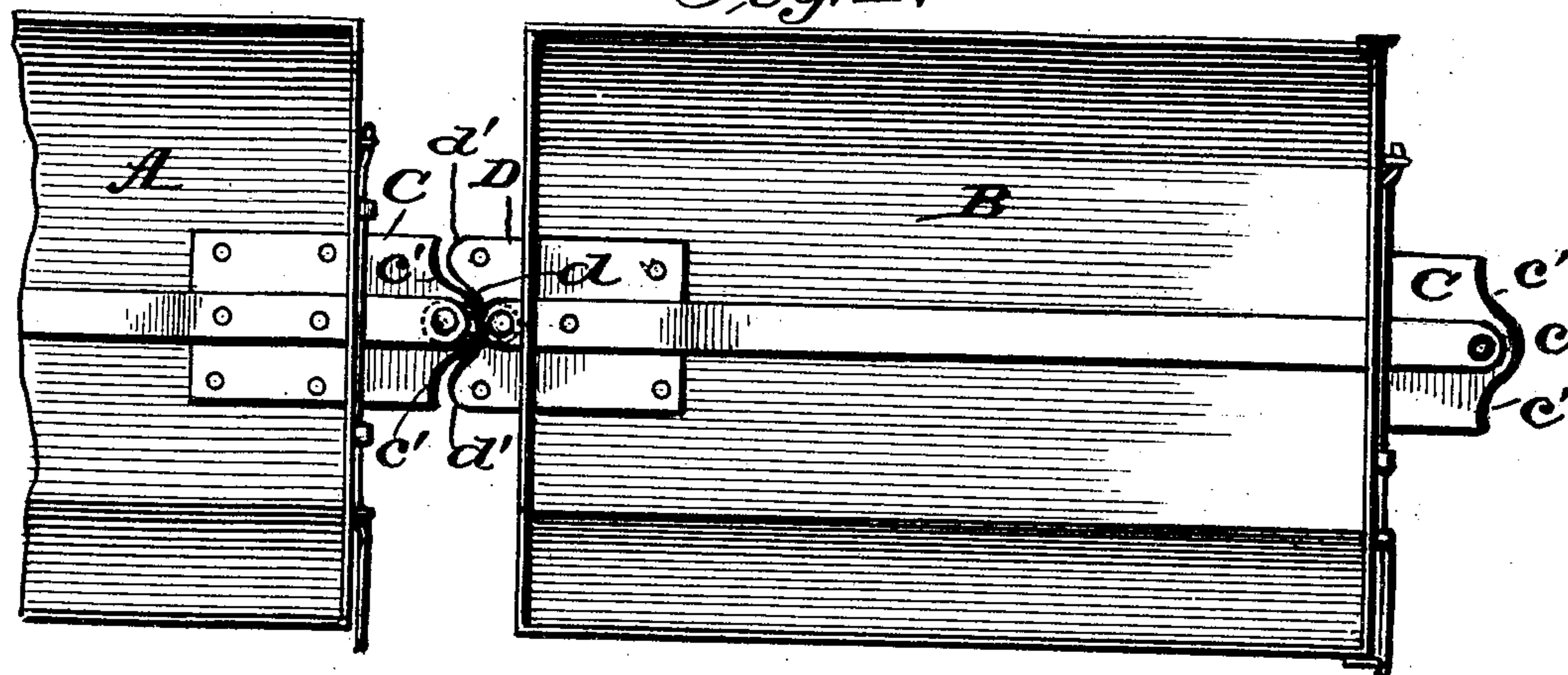


Fig. 2.

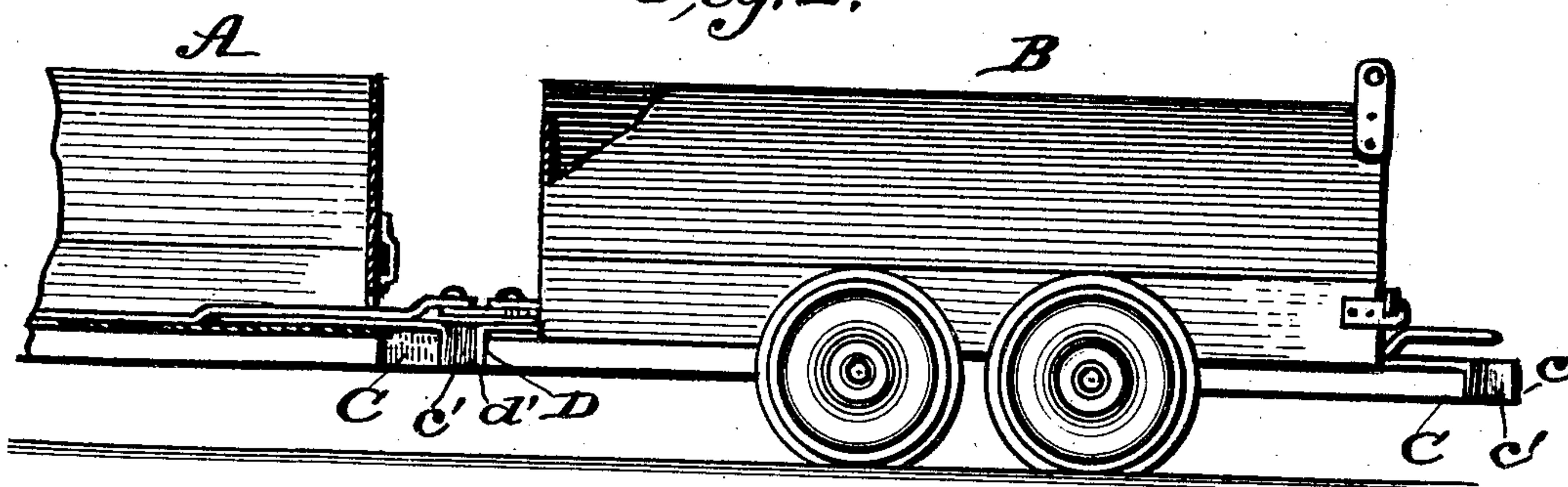


Fig. 3.

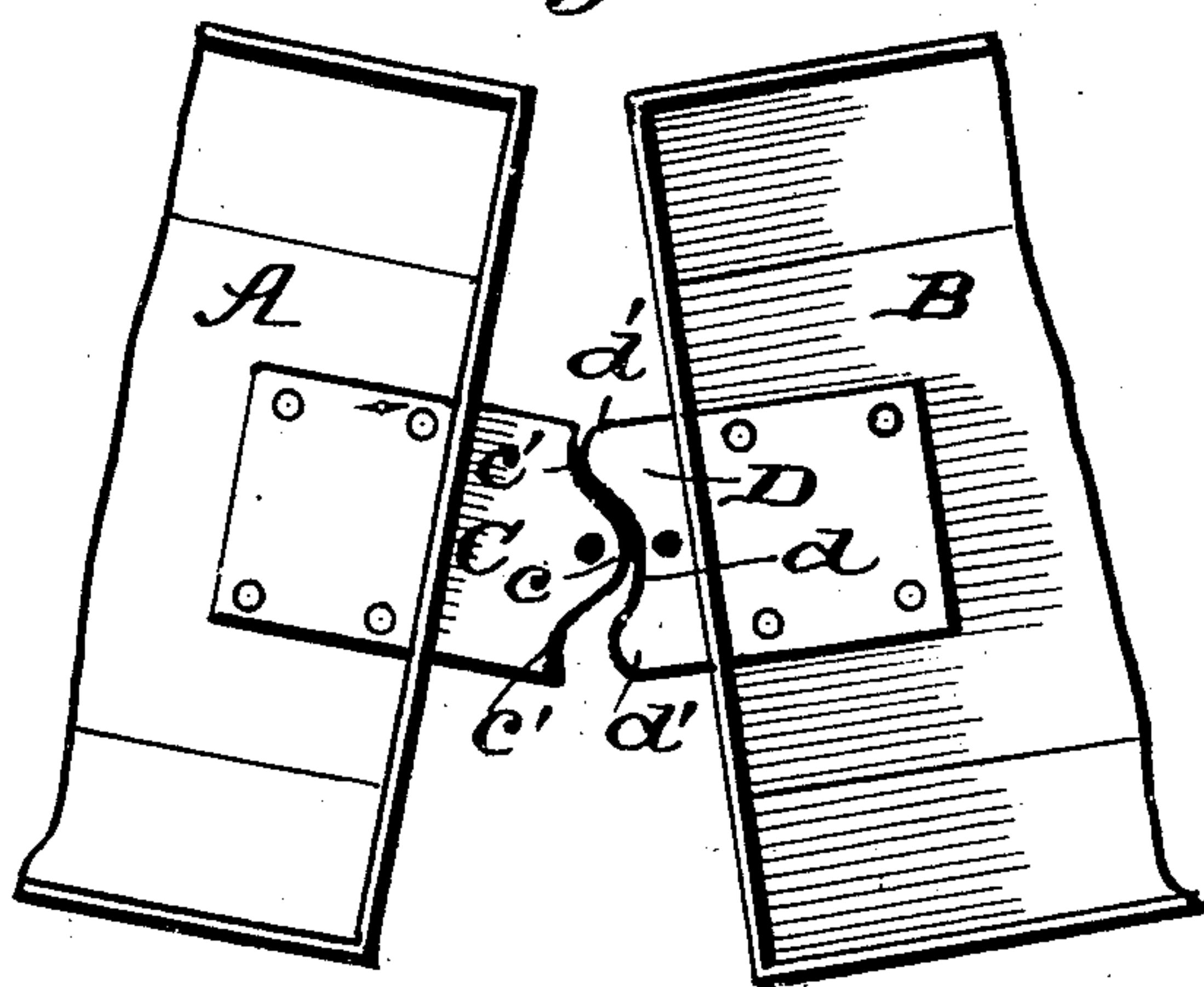
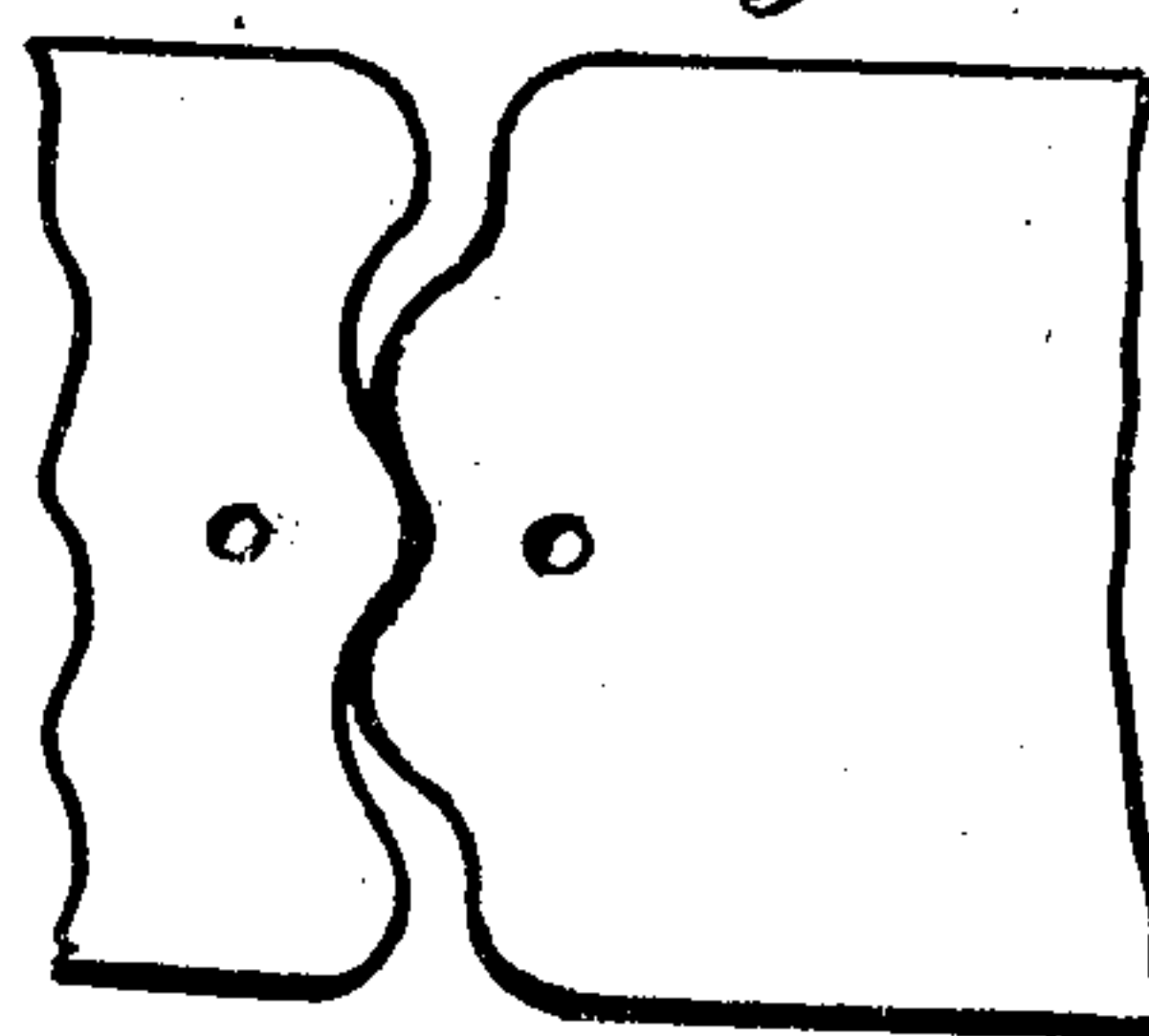


Fig. 4.



WITNESSES:

Jos. A. Ryan.
Amos W. Hart

INVENTOR

Edward Moran

BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

EDWARD MORAN, OF CHARLESTON, WEST VIRGINIA.

CAR-BUMPER.

SPECIFICATION forming part of Letters Patent No. 766,056, dated July 26, 1904.

Application filed December 30, 1903. Serial No. 187,183. (No model.)

To all whom it may concern:

Be it known that I, EDWARD MORAN, a citizen of the United States, and a resident of Charleston, in the county of Kanawha and State of West Virginia, have made certain new and useful Improvements in Car-Bumpers, of which the following is a specification.

My invention is an improvement in that class of bumpers which are applied to mining-cars and arranged centrally at the ends thereof.

My chief object is to provide bumpers which will remain engaged when cars are being propelled from the rear by a locomotive or motor and are passing around a curve, in which case under certain conditions—that is to say, when a series of cars are loaded or the train is very long—a strong lateral pressure is applied and there is extreme danger of derailment of one or more cars. Each car is provided at opposite ends with bumpers of different construction, which correspond with the bumpers of other cars, so that they are adapted to engage and lock in the manner hereinafter described.

The details of construction of my improved bumper is as follows, reference being had to accompanying drawings, in which—

Figure 1 is a plan view of a car and a portion of another provided with my improved bumpers and coupled. Fig. 2 is in part a side elevation and in part a longitudinal section of the same. Fig. 3 is a plan view of the adjacent ends of the two cars. Fig. 4 is a plan view representing a modification.

A indicates a portion of one car, and B indicates another car. The car B is shown provided at opposite ends with bumpers C and D. The bumper C has a rounded central projection or convexity c and adjacent lateral recesses or concavities c' . The bumper D on the opposite end of the car has a corresponding central concavity d and adjacent lateral convexities d' . The concavity d receives the convexity c of an opposing bumper, and the concavities c' receive the opposite convexities d' of the opposing bumper when the cars A B are coupled, as shown in Figs. 1 and 2. It will be seen that the several concavities d and c' are wider or somewhat larger than is necessary to adapt them to receive the opposing

convexities c and c' , so that a certain degree of lateral play is permitted, as required by the inequalities of the track or track-gage and the consequent oscillation of the cars in running over the track.

By reference to Fig. 3, where the two cars A and B are shown at an angle to each other, as in passing around a curve, the lateral convexity d' of the bumper D is shown projected into the opposite concavity c' of the bumper C, while the central convexity c of the latter bears in the concavity d of the bumper D. By this engagement of the bumpers they are in a sense locked and in such manner that danger of derailment by one car being forced laterally is avoided. In other words, they are held engaged, so that neither car is liable to be thrown laterally off the rails. It should be understood that when the curve of the tracks is greater, and the angle of the cars to each other is consequently greater, than indicated in Fig. 3 the convexity c' of bumper C will not rest in the cavity d of the bumper D, but the convexity d' will alone be in contact with the opposite bumper C.

The bumpers proper are constructed of metal castings or a steel plate fitting over a wooden piece; but it is to be understood that any preferred construction may be adopted, the essential feature being the construction of the meeting ends of the bumpers, as before described.

I have shown the cars A B coupled by a link and pin in the usual manner. It is to be understood that any suitable coupling may be adopted which will permit the bumpers to assume the position indicated in Fig. 3.

In Fig. 4 I indicate a modification in the form of the meeting surfaces or ends of the bumpers, the same being convex as a whole and corrugated or grooved vertically, the central projection of one being adapted to enter or engage the opposite concavity of the other, as will be readily understood.

What I claim is—

1. The combination of car-bumpers, one provided with a central concavity and lateral convexities projecting forward of the said concavity, and the other provided with a central convexity, and lateral concavities arranged in

rear of the said convexity, whereby the bump-
ers are adapted to engage in the manner de-
scribed when cars are passing around a curve,
substantially as specified.

5 2. A car-bumper having a central convexity
and lateral concavities in rear of said convex-
ity, substantially as described.

3. A car-bumper having a central concavity
and lateral convexities in advance of said con-
10 cavity, substantially as described.

4. A car having at one end a bumper ar-

ranged centrally thereof and provided with a
central convexity and lateral concavities in
rear of the convexity, and, at the other end,
with a bumper arranged centrally and having 15
a central concavity and lateral convexities
which are in advance of the concavity, sub-
stantially as described.

EDWARD MORAN.

Witnesses:

SOLON C. KEMON,
AMOS W. HART.