

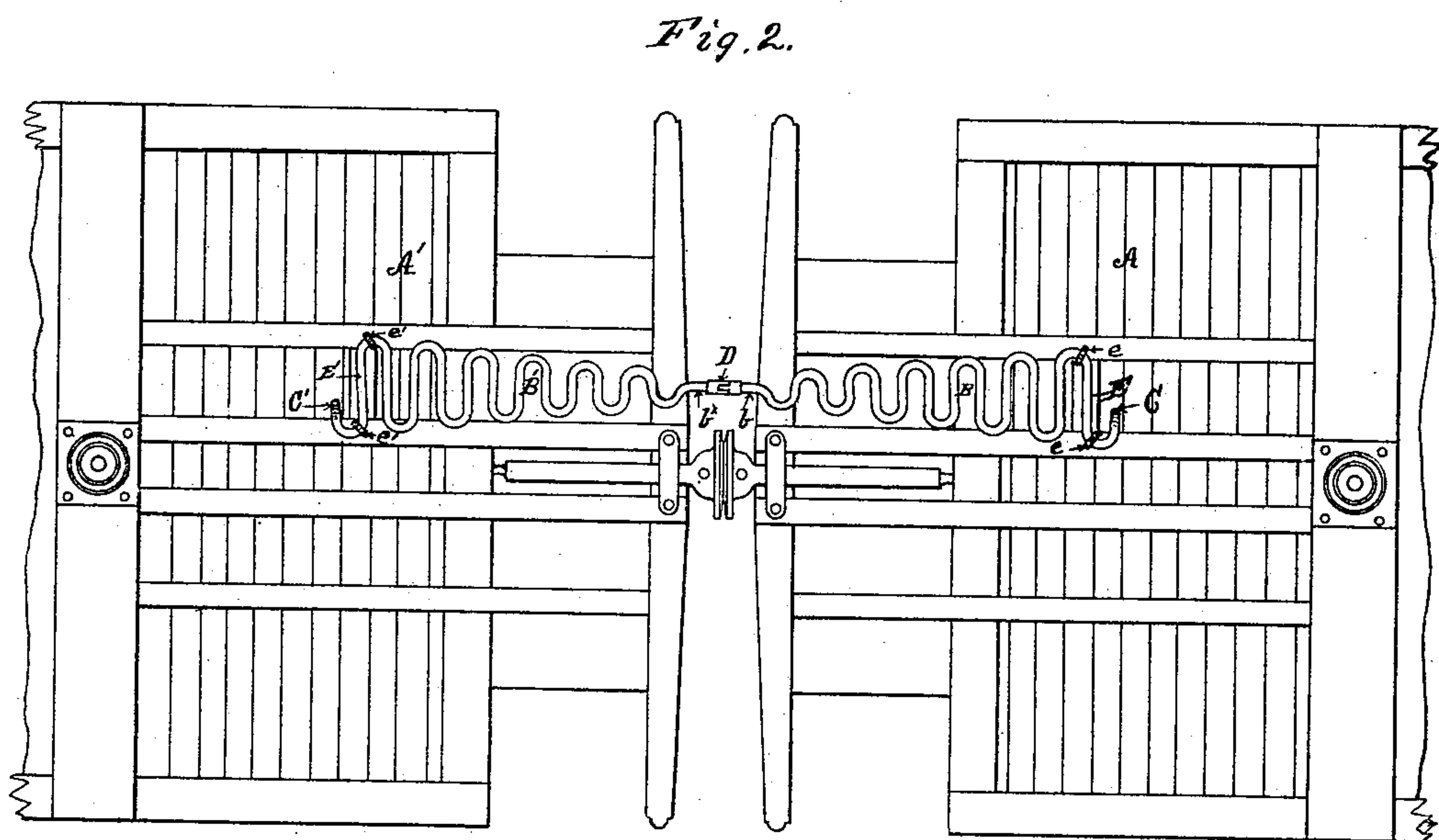
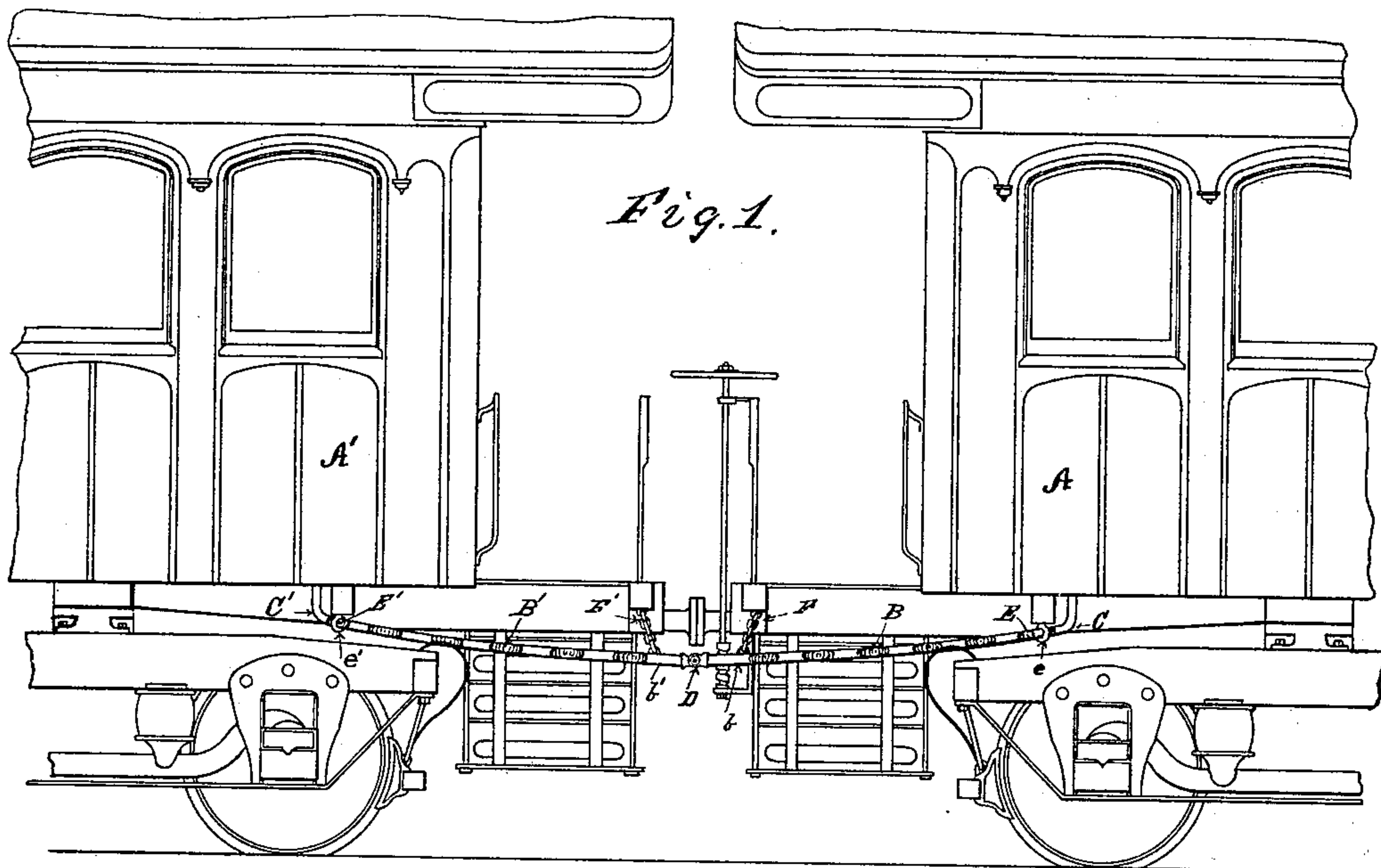
(No Model.)

J. R. DRODZEWSKI.

STEAM PIPE CONNECTION BETWEEN RAILWAY CARS.

No. 377,065.

Patented Jan. 31, 1888.



Witnesses.

F. J. Bennett
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Att'y.

UNITED STATES PATENT OFFICE.

JULIUS R. DRODZEWSKI, OF ERIE, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO JOSEPH McCARTER AND JOHN M. ORMSBEE, BOTH OF SAME PLACE.

STEAM-PIPE CONNECTION BETWEEN RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 377,065, dated January 31, 1888.

Application filed March 26, 1887. Serial No. 232,578. (No model.)

To all whom it may concern:

Be it known that I, JULIUS R. DRODZEWSKI, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Pipe Connections Between Railway-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention consists in the improvements in steam-pipe connections between railway-cars, hereinafter set forth and explained in the specification and claim, and is illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of sections of two railway-cars, with portions broken away, showing a side elevation of my improved steam-pipe connections. Fig. 2 shows a plan view of same as seen from below.

Like letters refer to like parts in all of the figures.

My invention, hereinafter described, is an improvement on Letters Patent No. 348,664, issued to me and my assignees September 7, 1886; and is designed to somewhat simplify the construction of coils for connecting steam-pipes between railway-cars, other objects and advantages thereof being hereinafter set forth in the specification and claim.

In the construction shown, A A' are sections of the ends of two railway-cars of usual and ordinary construction. In constructing the connections of the steam-heating pipes between the said cars I construct serpentine coils of pipe, B B', the size of the coils diminishing from the points C and C', where they are secured to the bottoms of the cars, to the point D, where the free ends thereof are coupled together between the cars.

The serpentine coils or bends are flat, being all bent in one horizontal plane, and not made helical or coiled about any central axis. The object of making the coils flat is to allow all the condensed water to drain out whenever

the coupling D is unfastened. With helical coils this would be impossible, as some water would remain in the lower parts and would be apt to burst the coils in frosty weather. The increasing size or amplitude of the coils as they recede from the coupling D distributes the bending strains evenly over all the coils. Each coil or bend will bend a little when the cars are turning a curve, and no undue stress will be thrown upon any one of them, such as might cause it to crack or break off. The ends E and E' of the coils C and C', I couple either directly to the heating-pipes inside of the car, (not shown,) or to steam-conducting pipes running lengthwise of the car, (not shown,) as desired, and firmly secure the ends E and E' of the coils B and B' to the bottoms of the cars A A' by means of hooks *ee e' e'*, or by other convenient means, so that the coils will occupy a horizontal position gradually sloping downward to the point D, so as to allow for drainage. The outer or free ends of the coils B and B', I preferably secure to the bottoms of the ends of the cars A A' by means of short chains F F', though, if desired, any other convenient flexible support may be substituted therefor. At the point D, I preferably couple the ends of the pipes B and B' directly together by means of any of the ordinary forms of coupling-joint, there being sufficient flexibility in the coils B and B' to provide for all of the longitudinal movement of the cars to and from each other on account of slackness in the car-couplings, as well as any and all lateral or vertical movement of the ends of the cars in relation to each other. If, however, it is deemed desirable, the ends *b b'* of the coils B and B' can each be provided with a telescopic joint, as shown in my Patent No. 348,664, hereinbefore referred to. However, I prefer the construction I have first above described.

In the drawings I show the coils B and B' as continuous from the points C and C', where they are secured to the cars near the ends thereof, *b* and *b'*, the curves of the coils occupying nearly the whole space. It is obvious, however, that neither the number of coils used nor their form are essential to the opera-

tion of my device, as a less number of coils may be used provided enough are used to secure the requisite flexibility, and the shape of the coils can be considerably varied within
5 such horizontal plane as is necessary to secure their adequate drainage.

Having thus fully described my invention, so as to enable others to construct and operate the same, what I claim as new, and desire to
10 secure by Letters Patent of the United States, is—

A flexible connection between the steam-pipes of adjacent railway-cars, consisting of the coupling D, and the two flat inclined coils
15 B and B', secured to the steam-pipes and to the said coupling, and having their bends

gradually increasing in amplitude as they recede from the coupling to distribute the strain upon them in rounded curves, in combination with the hooks rigidly securing the higher
20 ends of the coils underneath the cars, and the flexible chains supporting the lower ends of the coils near the coupling, so that the water may drain off when the pipes are disconnected,
25 substantially as and for the purpose set forth.

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

JULIUS R. DRODZEWSKI.

Witnesses:

H. J. CURTZE,
F. J. BASSETT.