

No. 685,392.

Patented Oct. 29, 1901.

R. M. CHAPMAN.
COMPOSITE RAILWAY TIE.

(Application filed Oct. 16, 1900.)

(No Model.)

Fig. 1.

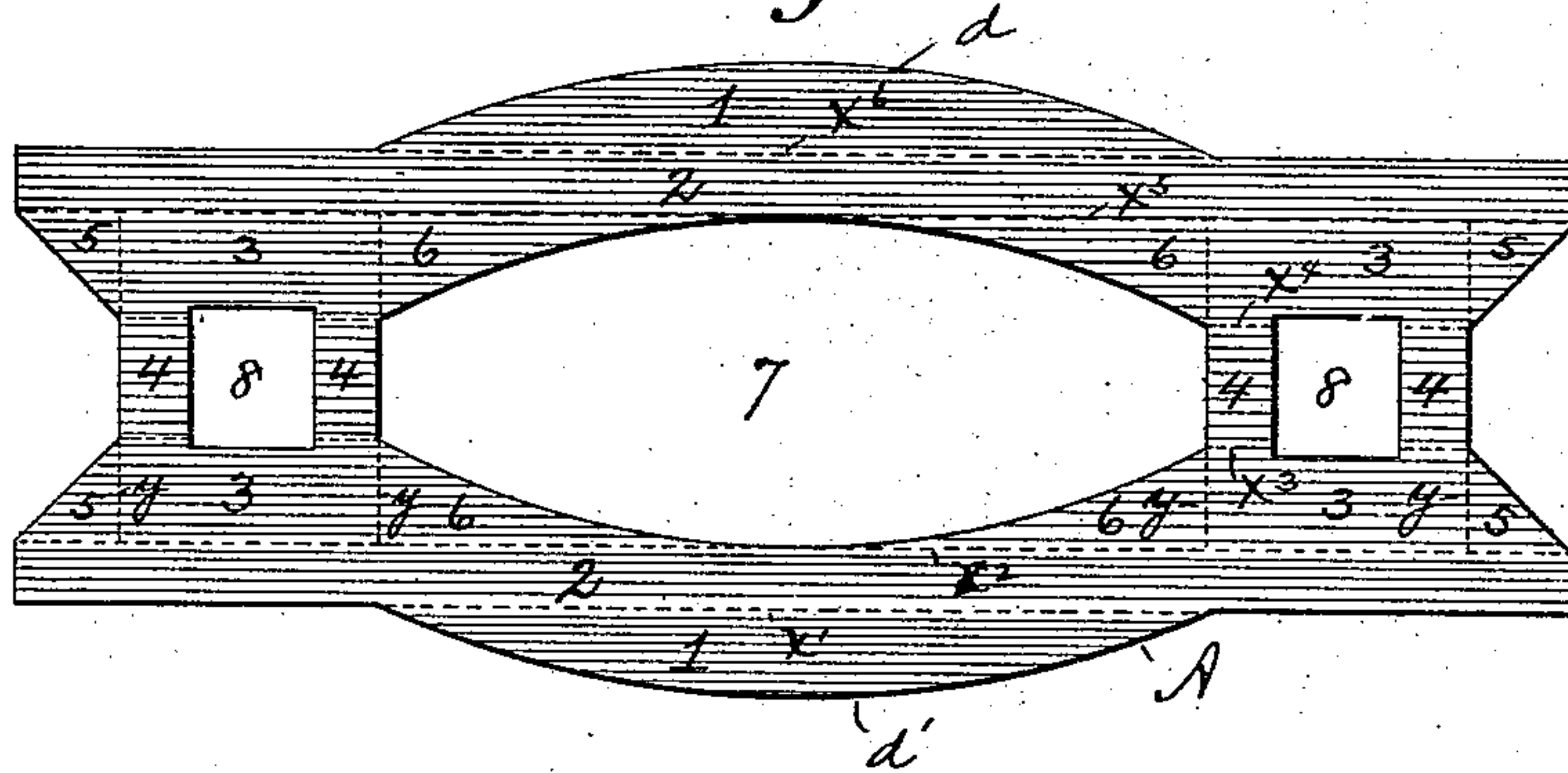


Fig. 2.

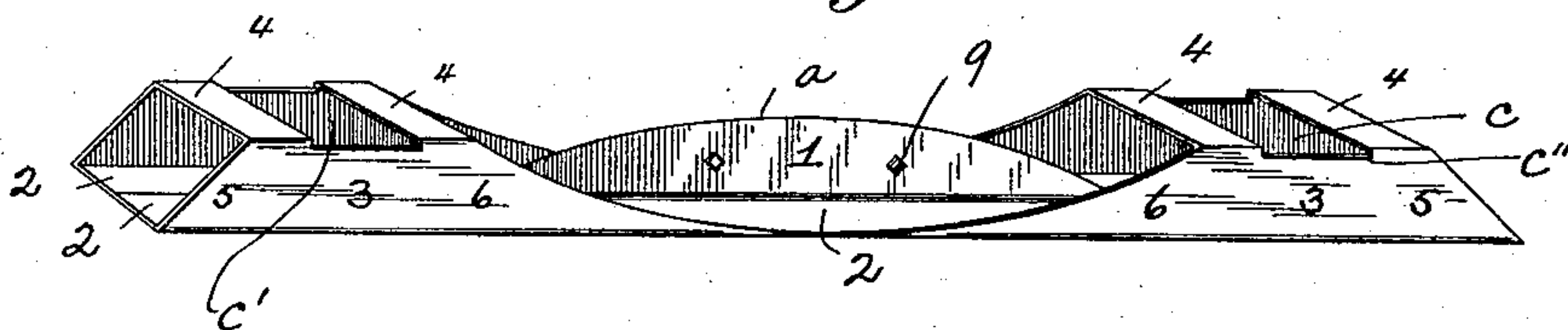


Fig. 3.

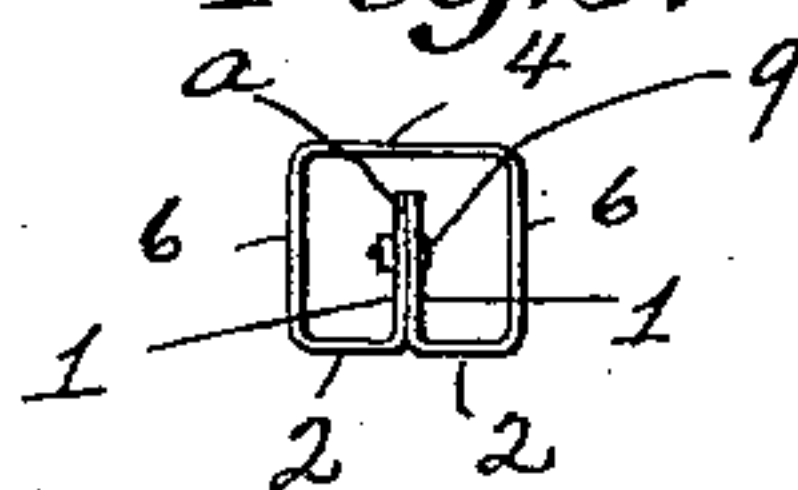


Fig. 4.

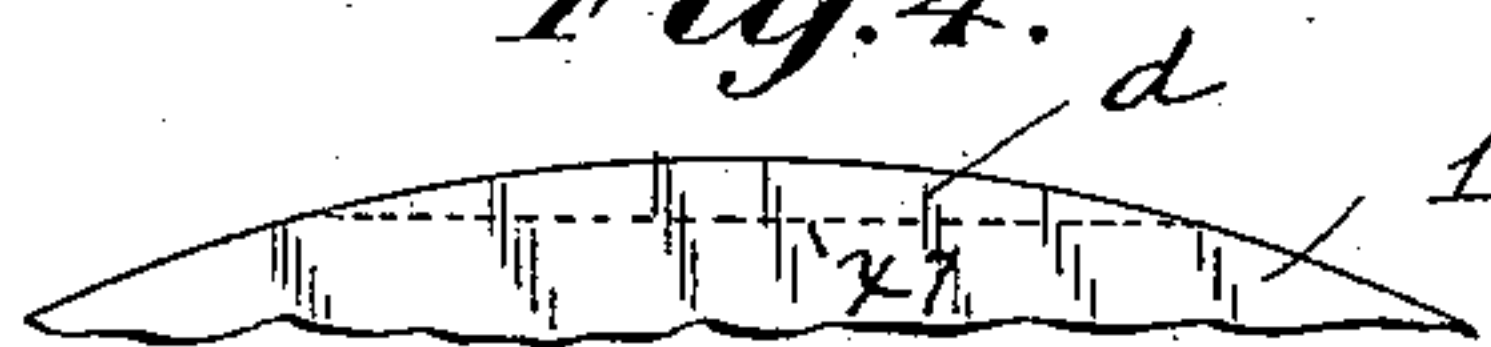
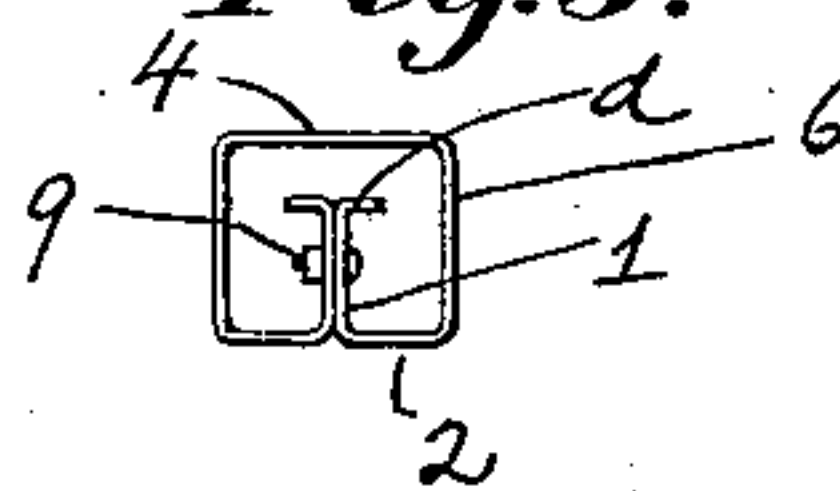


Fig. 5.



WITNESSES:

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COMPOSITE RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 685,392, dated October 29, 1901.

Application filed October 16, 1900. Serial No. 33,209. (No model.)

To all whom it may concern:

Be it known that I, RICHARD M. CHAPMAN, a citizen of the United States, residing at Oceanside, in the county of Nassau and State of New York, have invented a new and useful Improvement in Composite Railway-Ties, of which the following is a specification.

My invention relates to composite railway-ties, and its novelty consists in the construction and adaptation of the parts.

Heretofore many attempts to make composite railway-ties have failed for sundry reasons, chiefly from the fact that they were too dear or too resonant or not rigid enough.

It is the purpose of my invention to overcome some of the disadvantages complained of. To that end I make my tie out of wrought metal, which may be rolled into sheets and struck up into the proper shape. This insures uniformity in manufacture, lightness in weight, and economy in price. The blank so made I then fold inward and upward, securing the adjacent flanges together by any suitable means. This secures accuracy and rigidity.

In the drawings, Figure 1 is a plan view of the blank from which my tie is made. Fig. 2 is a perspective of the same when folded into shape. Fig. 3 is a transverse central section and side elevation looking from the left, and Figs. 4 and 5 are views of a modification of the device.

In the drawings, A is the blank out of which my tie is made. It consists of a sheet of rolled metal of a width about equal to the length of the ordinary tie and of the shape shown in Fig. 1. It is provided with a longitudinal central aperture 7 and two smaller apertures 8 8. Considering it as being divided by the imaginary lines x and y , it consists of two flanges or sections, preferably in the form of sectors 1 1, two elongated rectangles 2 2, four triangular pieces having one curved side 6 6 6 6, four rectangles 3 3 3 3, four rectangles 4 4 4 4, and four triangles 5 5 5 5.

The tie is folded inwardly along the longitudinal lines x' , x^2 , x^3 , x^4 , x^5 , and x^6 until the sections 1 1 are in juxtaposition and at right angles to the rectangles 2 2. The latter in turn are at right angles to the pieces 5, 3, and

6, and the pieces 3 are at right angles to the pieces 4. As will be best seen in Fig. 2, folding the blank inwardly in this manner causes it to assume the general shape of a railway-tie, in which the two pieces 2 2 form together a base-plate, the two pieces 1 1 form a longitudinal central rib arranged between open sides of the tie and extending at right angles to said base-plate and having inclined ends, and the remaining portions of the blank form two sleeves or boxes c c' , of which the pieces 6, 3, and 5 form the sides and the pieces 4 4 the tops, said sides 6 having their inner ends inclined in a direction the reverse of the inclination of the ends of the rib, respectively, and overlapping the planes of said rib ends. These sleeves are adapted to receive and retain blocks of wood, (not shown,) upon which the rails are bolted or secured, as is the case with an ordinary wooden tie. The blank after being folded may be held together by any suitable means—for instance, by bolts, as 9, passing through the sectors 1 1. The manner of doing this is immaterial and quite within the skill of the ordinary workman to accomplish. A slight depression may be cut into the plate 3, if desired, as at c'' , so as to permit the surface of the wooden block to rise above the upper edge of the plate.

It will be observed that in my improved tie the central vertical rib a affords an efficient means for preventing forward creeping of the tie and that the curvature of the pieces 6 6 6 6 downward toward the center of the tie equals in some measure the curvature of the pieces 1 1 downward from the same center, so that the amount of resistance to the forward trend of the tie is about the same throughout its entire width. The upper edge of the rib a is slightly below the level of the pieces 4 4, and thus covered with the ballast when the tie is in place in order to prevent the feet of the track-walker from being injured on its sharp edge.

In Figs. 4 and 5 I have illustrated a modified form of my device in which the sectors 1 1 are folded over along the line x^7 at their top edges d d , so that they form together a horizontal plate below the level of the pieces 4 4. This construction gives a flat support for the ballast.

It will be observed that my improved tie is light, cheap, durable, and efficient, that it requires only the ordinary number of spikes to be used with it, and that it is not resonant.

5 Having described my invention, what I claim as new is—

10 1. A blank for the body of a composite railway-tie, formed of plate metal and having an open central portion and side flanges or sections opposite said open central portion, said blank also having end portions constructed to form bearing-boxes when folded.

15 2. A blank for the body of a composite railway-tie, formed of plate metal, having its ends constructed to form bearing-boxes when folded, an open central portion with oppositely-curved inner walls extending from one box portion to the other, and sectors projecting from its sides, arranged opposite said central portion, said sectors having their outer edges curved correspondingly with the curvature of the walls of said open central portion, respectively.

20 3. A railway-tie having its body made of wrought-metal plate and constructed to form, when folded, essentially a sleeved bearing-seat at each end adapted to receive wooden bearing-blocks, a horizontal base-plate, open sides between said seats and a vertical central rib extending longitudinally of the body and within the open portion thereof.

4. A composite railway-tie made of a wrought-metal plate folded inward and forming when so folded, a horizontal base-plate, a central vertical rib highest at the middle and sloping toward its ends, and at each end a sleeved bearing-seat having an apertured upper surface, vertical sides and sloping ends. 35

5. A composite railway-tie, formed of a wrought-metal plate, and having open sides, a sleeved bearing-seat at each end adapted to receive wooden blocks, and a central rib extending longitudinally of the body between said seats, the inner ends of said seats and the ends of said ribs being inclined in relatively reverse directions and arranged in overlapping planes. 45

6. A composite railway-tie made of a wrought-metal plate folded inward and joined together at its inner adjacent flanges to form a vertical rib the upper edges of which are turned over to form a horizontal plate and provided with a sleeved bearing-seat at each end. 50

Witness my hand, this 9th day of October, 1900, in the presence of two subscribing witnesses. 55

RICHARD M. CHAPMAN.

Witnesses:

HERMAN MEYER,

MABEL K. WHITMAN.