

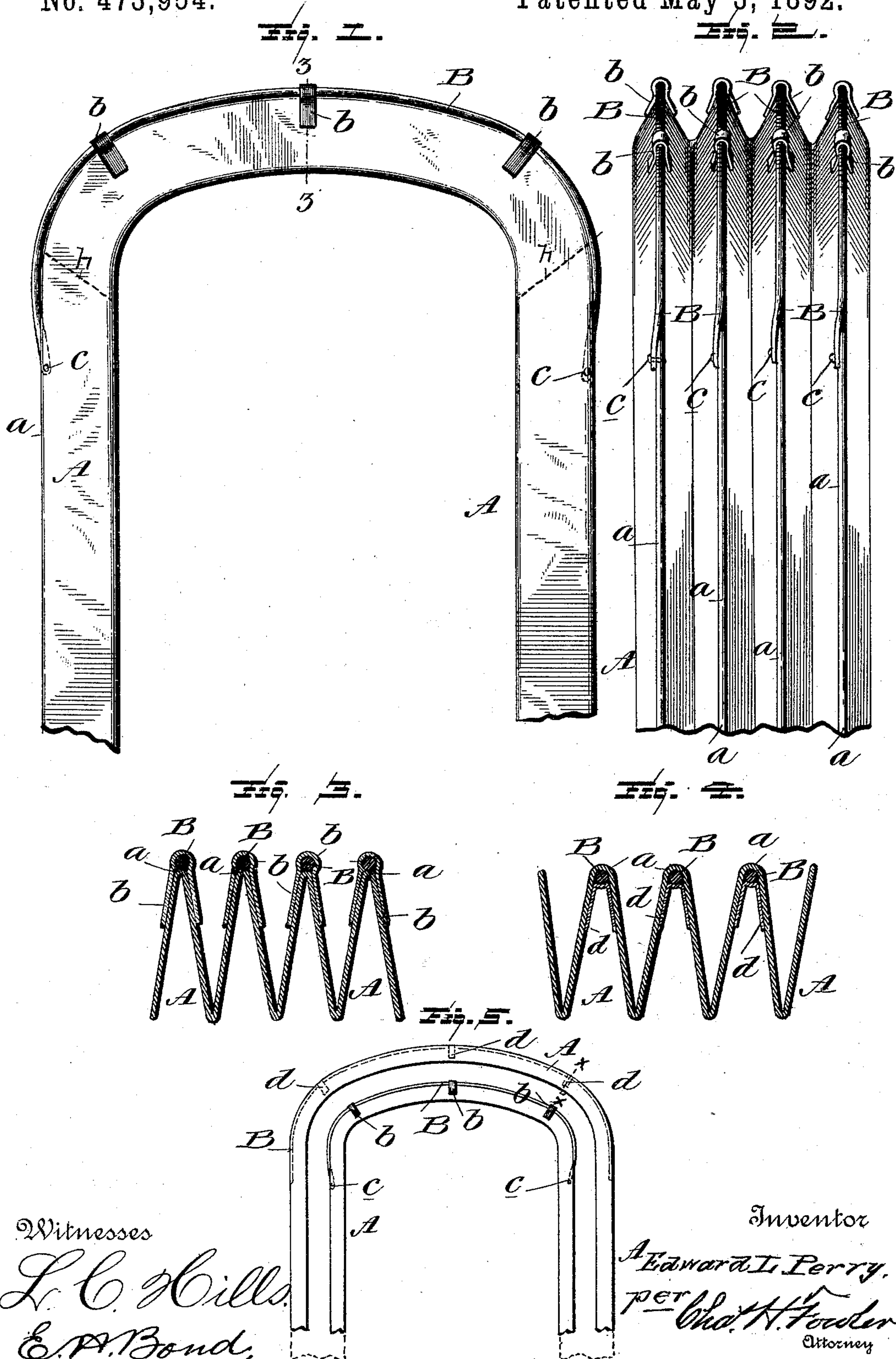
(No Model.)

E. L. PERRY.

BELLOWS FOLD COUPLING FOR CAR VESTIBULES.

No. 473,954.

Patented May 3, 1892.



UNITED STATES PATENT OFFICE.

EDWARD L. PERRY, OF PATERSON, NEW JERSEY.

BELLOWS-FOLD COUPLING FOR CAR-VESTIBULES.

SPECIFICATION forming part of Letters Patent No. 473,954, dated May 3, 1892.

Application filed February 4, 1892. Serial No. 420,275. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. PERRY, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Bellows-Fold Couplings; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has relation to that class of devices which are termed "bellows-fold coupling," used for the purpose of vestibuling passenger-cars; and the object thereof is to provide such a coupling as will possess strength and durability without the necessity of the use of alternate layers of textile fabric and rubber, but constructing the coupling from a single ply of fabric without the use of gussets or stays, and also providing the coupling at the apex of the folds with loops, keepers, or other means whereby suitable supports may be connected to the folds to retain them in position. These several objects I attain by the construction substantially as shown in the drawings, and hereinafter described and claimed.

Figure 1 of the drawings represents a front elevation of a portion of a bellows-fold coupling sufficient to illustrate my invention; Fig. 2, a view at right angles to that of Fig. 1; Fig. 3, a central vertical section taken on line *z z* of Fig. 1; Fig. 4, a section taken on line *x x* of Fig. 5, which shows a modification of my invention. Fig. 5 shows a front view of a double diaphragm constructed in accordance with my invention.

In the accompanying drawings, A represents the bellows-fold coupling, constructed from a single ply of suitable fabric, and in order to form the required arch or curve an independent piece is used, as shown at A', which is cut on the bias and united to the

sides, as seen by dotted lines *h h* in Fig. 1, in any well-known manner, thereby securing a greater elasticity and flexibility and also enabling me to use up what would otherwise be waste pieces.

In order to retain the supports B in position upon the folds of the coupling, I provide suitable loops *b*, which are shown at the outer edge of the apex of the angle which forms the fold; but in Fig. 4 these loops are represented at *d* and are shown upon the inside of the angle, either way being considered equally as effective. Any means that will conveniently and securely retain the supports in place may be substituted for the loops shown and described, and therefore I prefer to term such means "keepers," in order to cover any equivalent construction that will serve the same purpose. The ends of the supports are suitably connected by rivets *c* or otherwise to the folds of the coupling, as shown in Figs. 1 and 2.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A bellows-fold coupling provided with a support or supports, in combination with the arch of the folds and retained in place thereon by keepers, as set forth.

2. A bellows-fold coupling formed from a single ply of fabric and having that portion constituting the arch or curve thereof formed separate and afterward united to the sides, combined with supports held to the folds of the coupling and over the joints between the arch and sides, substantially as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDWD. L. PERRY.

Witnesses:

WM. H. DE LACY,
CHAS. H. FOWLER.