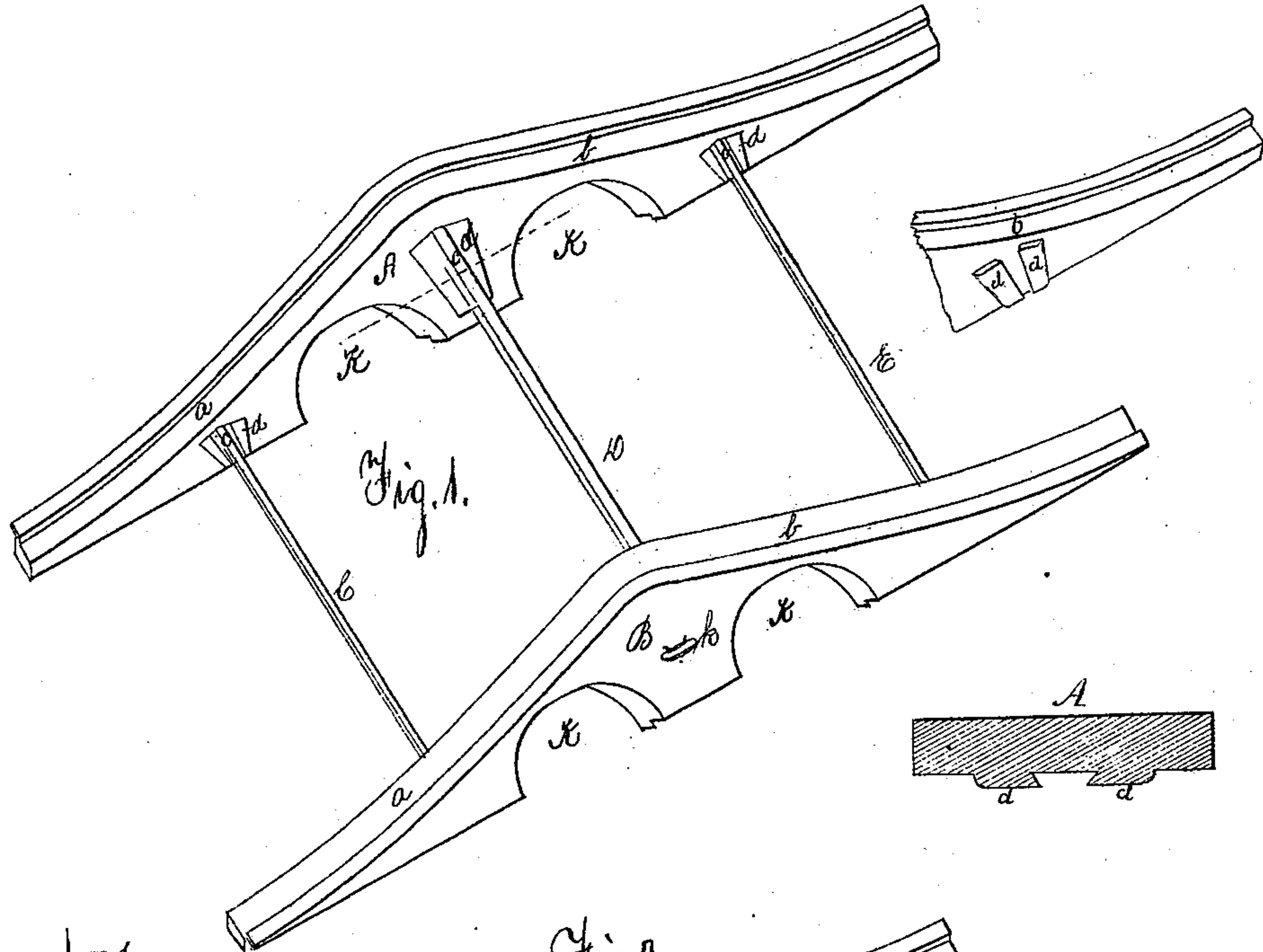


*Donoghue & Charlton,*

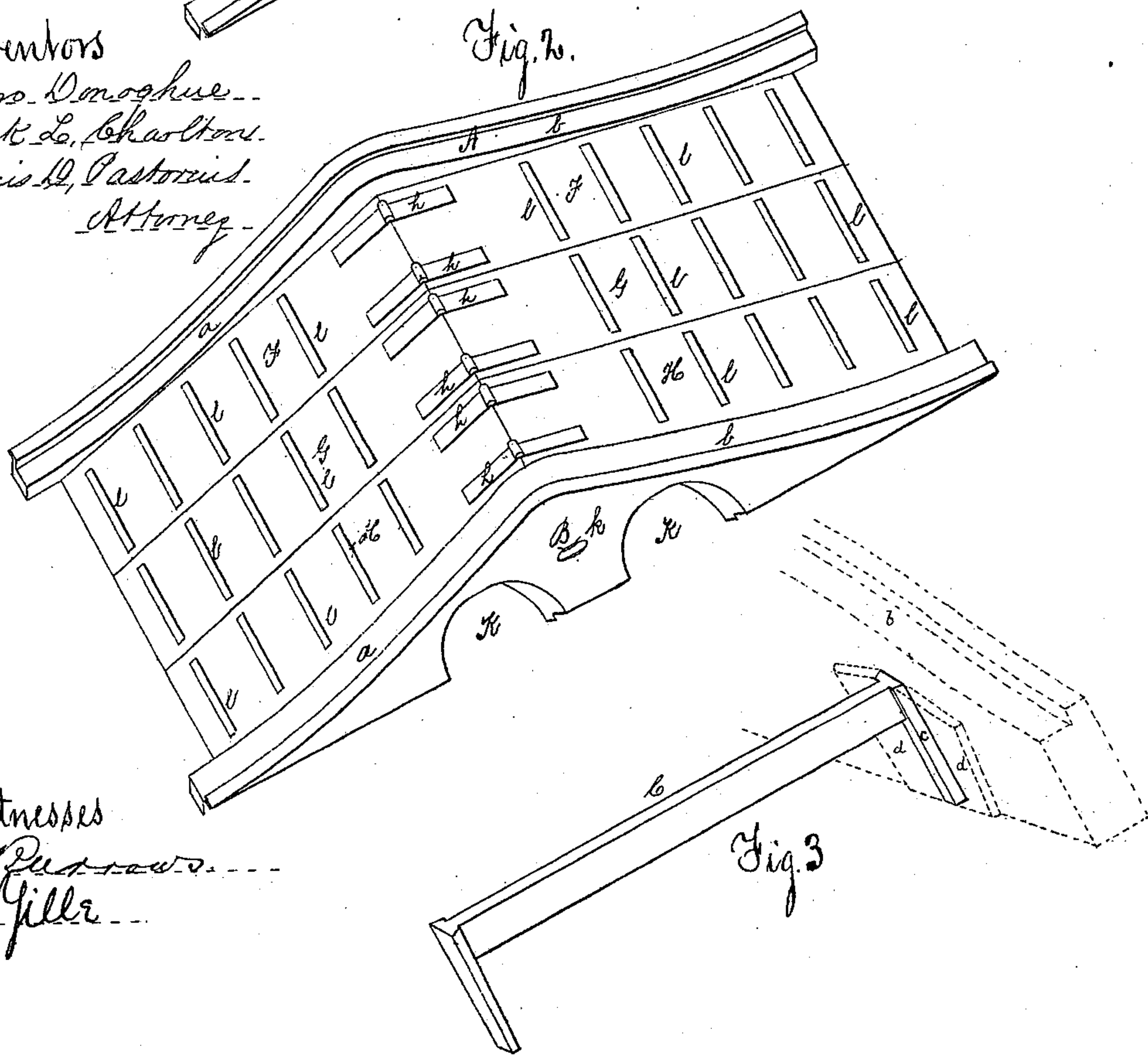
*Hose Bridge.*

*No. 96,559.*

*Patented Oct. 9. 1869.*



*Inventors*  
*William Donoghue*  
*Fredrick L. Charlton*  
*per Francis H. Pastors*  
*Attorney*



*Witnesses*  
*Samuel P. ...*  
*John Giller*

# United States Patent Office.

WILLIAM DONOGHUE AND FREDERICK L. CHARLTON, OF PHILADELPHIA,  
PENNSYLVANIA.

Letters Patent No. 96,559, dated November 9, 1869.

## IMPROVED HOSE-BRIDGE.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern :*

Be it known that we, WILLIAM DONOGHUE and FREDERICK L. CHARLTON, both of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Bridge or Hose-Jumper for Railway-Cars; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying sheet of drawings, and to the letters of reference marked thereon.

Our invention consists of a bridge or jumper, to be used by railway-cars and others in time of fire, for crossing the hose without coming in contact with and cutting it.

It is composed of two double-inclined bridges, placed side by side, and held together by transverse dovetailed tie-rods. A series of adjustable pointed floor strips is laid on the said tie-rods, and forms the means whereby the horses pass over the hose at the same elevation with the cars.

On reference to the accompanying sheet of drawings, making part of this specification—

Figure 1 is a perspective view of the bridge without the flooring;

Figure 2 is the same view with the flooring; and

Figure 3 is a perspective view of the transverse tie-rods.

Similar letters refer to similar parts in the several views:

A B are sides or housings, the lower edges of which are perfectly flat and level, to correspond with the rails on which they rest.

Their upper edges are composed of double inclines *a b*, which rise from the level of the track, and meet in a curve at their centres, and at any convenient height above the track. The said inclined tops or surfaces correspond in every particular with the rails on which the housings stand.

C D E are any convenient number of transverse tie-rods, the ends of which have the wedge-shaped dovetailed projections or tenons *c*, which take into simi-

larly-shaped mortises *d*, on the inner sides of the housings A B, and when properly adjusted in place, the housings are firmly held together. The housings are set apart at a distance equal to the width of the rails.

To provide proper facilities for the horses to pass over the bridge, a temporary movable floor is provided, which is constructed in sections F G H, which are hinged together at *h*, to conform to the positions of the transverse tie-rods on which they are carried, they being at different levels, to conform with the inclinations of the tops or rails *a b*.

When not in use, the floor-pieces are folded, the tie-rods are detached from the sides, and the whole is readily packed under the seat of the car or other convenient place.

When wanted for use, it is set up and placed over the various lines of hose which cross the railway at that point, provision having been made for several lines of hose by providing a number of openings, K, in the bottom of each panel.

To keep the bridge from shifting when in use, it is proposed to use loops *k*, through which pins can be driven into the pavement.

A series of transverse foot-strips, *l*, are fixed to the floor-pieces, to keep the horses from slipping.

What we claim as our invention, and desire to secure by Letters Patent, is—

The sides A B, having the hose-openings K, transverse tie-rods C D E, having the tenon-ends *c*, the mortises *d*, on the sides A B, and the movable adjustable floor F G H, carried by the transverse tie-rods C D E, the whole combined and arranged substantially as shown and described.

In testimony whereof, we hereunto sign our names in presence of two subscribing witnesses.

WILLIAM DONOGHUE.  
FREDERICK L. CHARLTON.

Witnesses:

FRANCIS D. PASTORIUS,  
ABSALOM ZEARFOSS.