(No Model.)

B. E. HENRIKSEN.

HOSE BRIDGE.

No. 455,619. Patented July 7, 1891.

FIG. 2.

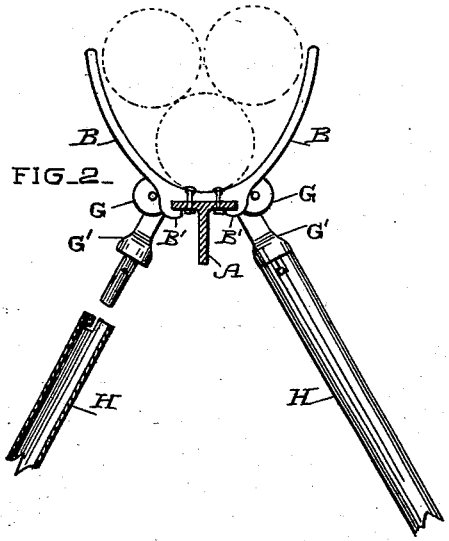


FIG. 4.

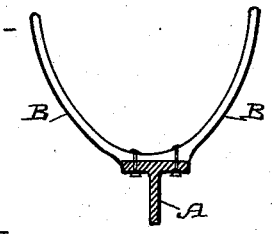


FIG. 5.

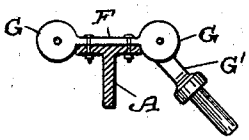


FIG. 3.

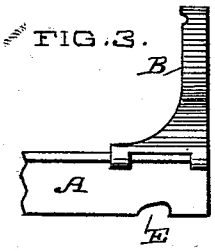


FIG. 1.

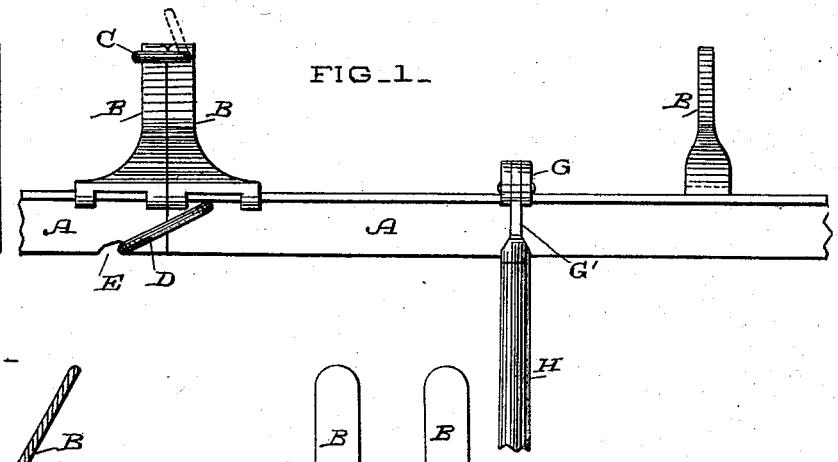


FIG. 7.

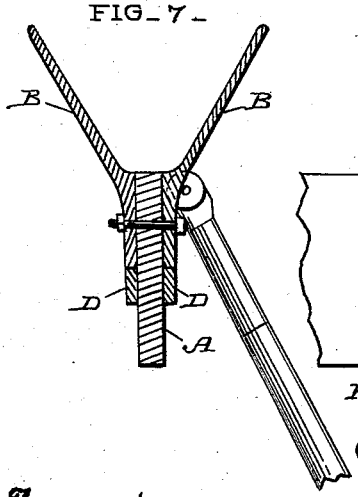


FIG. 6.

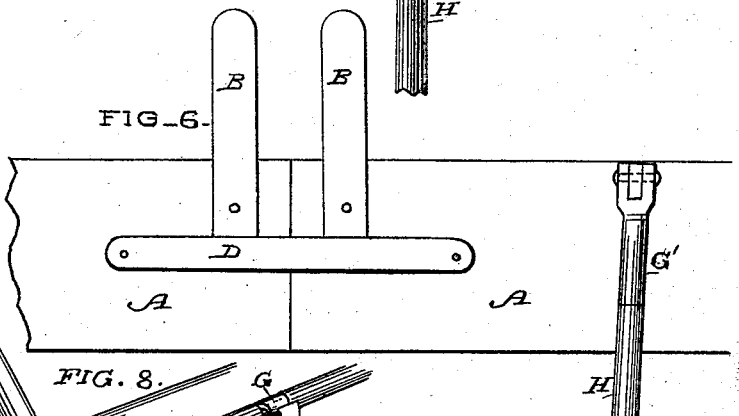
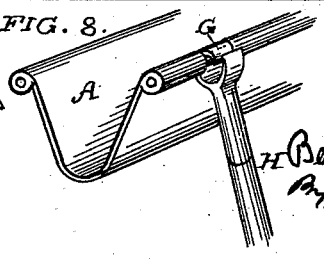


FIG. 8.



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Attys

UNITED STATES PATENT OFFICE.

BERNHARDT E. HENRIKSEN, OF SAN FRANCISCO, CALIFORNIA.

HOSE-BRIDGE.

SPECIFICATION forming part of Letters Patent No. 455,619, dated July 7, 1891.

Application filed November 21, 1890. Serial No. 372,239. (No model.)

To all whom it may concern:

Be it known that I, BERNHARDT E. HENRIKSEN, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Bridges for Fire-Hose; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an improvement in hose-bridges, and its object is to simplify the construction, so as to make the parts of the bridge easily portable, easily assembled, and extended to furnish a bridge of indefinite length.

It consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved bridge. Fig. 2 is a transverse section. Fig. 3 is the end of one of the sections. Figs. 4 and 5 are details of parts of the apparatus. Fig. 6 is a side view showing the device made partly of wood and partly of iron. Fig. 7 is a transverse section of the same. Fig. 8 is a view showing the leg heads or brackets hinged directly to the support.

In a former patent issued to me March 27, 1888, I have shown a bridge consisting of independent yokes having rods or tubes extending through them, so as to form a cradle, and adjustable legs by which this cradle is supported, the legs being pivoted, so as to fold alongside the cradle when not in use.

In my present invention I have dispensed with these rods and yokes, and I employ a single girder A, which may be made of T-iron, as shown in Figs. 1 and 2, or of wood, as shown in Figs. 6 and 7, having a sufficient depth of transverse section to give it the necessary rigidity, and in connection therewith of legs hinged to move at right angles with the support for the purpose of raising or lowering the device, and these legs are made removable for compactness in transportation. The girders are made in any suitable lengths—say, about ten feet each—and are so formed that the ends will abut squarely together, so that I may make as many lengths as may be desired to span the space which it is desired to bridge.

Upon each of the girders A is fixed a segment or arched bracket B, the open ends of which are upward. At the bottom these segments fit squarely upon the flat top of the girder and have lugs with slots which fit over the edges of the girder, while the ends of the lugs extend beneath the edges, as shown at B′. This insures the segments being held rigidly in place upon the ends of the girders. If the girder be made of wood, as shown in Fig. 7, the arms simply extend down the sides and are bolted through securely, so as to hold them firmly in place, the depth of the girder providing the necessary bearing to prevent sagging at the joints. These segments upon the meeting ends of the girders abut together, as shown in Fig. 1, and loops or clamps C are pivoted to the upper ends of one of the segments, the loops being of such length that when the ends of the girders are brought together these loops will just hook over the opposing segments, and thus retain them firmly together.

Upon the side of one of the girders is pivoted another loop D, and the girder which abuts against this has a slot or depression E made in its lower edge, so that the loop D may be hooked into it, and the bottom edges of the girders will thus be held and prevented from separating. The depth from the top of the segments to the bottom of the girder furnishes a sufficient leverage, so that the uniting-loops will hold the ends firmly together without other support.

Upon each of the girders A are bolted the transverse bars or plates F, having upon their outer ends one part of a hinge, the other portion of which is formed upon the heads G, and a pivot-pin passing through the parts of these hinges allows the heads G to swivel about the pins in a plane at right angles with the girder. The lower ends of the heads G have cylindrical extensions G′ of such a size that the tubular legs H will just fit these extensions. Various devices for fastening these legs in place may be employed; but in the present case I have shown a pin projecting from each of the extensions, and an L-shaped slot made in the tubular leg into which the pin will slip, the leg being turned so as to lock it in place like the ordinary bayonet-joint. This enables me to attach and detach the legs very rapidly and at the same time retains them in

place while the apparatus is being set up. The segments are secured at intervals of about two and one-half feet along the girders, if made separate, or they may be made partly or entirely continuous along the girder, if desired, and they are of sufficient size to hold as many lengths of hose as it may be desirable to carry across any one bridge.

In order to set up this device, the girders are laid upon the ground. The heads G swivel upon the pivot-pins so that they project horizontally. The hose being laid in the support, the legs are slipped upon the extensions and locked in place, and then are lifted up so as to raise the girders into the proper position and to the proper height, the legs closing toward each other at the bottom as the girders are raised until the proper angle is attained to give them sufficient bracing sidewise. As the joints between the heads of the legs and the girders are knuckle-joints or hinges and only have movement at right angles with the girders, it will be manifest that they will have sufficient stiffness to prevent the device from falling over endwise, and each section of the bridge, being supported by two pairs of legs, will stand firmly. A length of ten feet is very suitable for these sections, as it will extend over one line of car-track, and as many of the sections may be united by the end coupling previously described as will be necessary to bridge over the desired space. No end braces can be used upon these supports if they are used over more than one line of track, as there is not sufficient room to use these and allow the steps of the cars to pass. In streets where there are four or more lines of track an equal number of sections must be employed, and the hinges of the legs are sufficiently stiff to hold the sections up without other braces. When the bridge is to be removed, the legs B are spread apart, the cradle or body lowered to the ground, the hose taken out, and the legs B disconnected from their supports and laid between the arms of the holders. In this condition the entire section can be carried under a car-seat or hook-and-ladder truck, or in any other vehicle.

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

1. A hose-bridge consisting of hollow cradle-sections adapted to contain fire-hose, having removable legs opening outwardly only at right angles to the sections and jointed thereto in such manner that they may lend the entire support to them, substantially as herein described.

2. A portable bridge consisting of a girder or beam having upwardly-projecting segments forming a continuous support for hose or pipes, latches by which the adjacent and abutting supports are coupled together, heads hinged to the sides of the girders, having extensions upon which the tubular legs are fitted, and a locking device for holding the tubular legs to the said heads, substantially as herein described.

3. A portable hose-bridge consisting of girders the ends of which abut together, upwardly-curving brackets or segments fitting upon the ends of the girders, with slotted lugs clamping upon the edges of the girders, hinged loops and corresponding notches upon the abutting girders and brackets, and heads hinged transversely to the girders, with detachable legs fitted to extensions from said heads, substantially as herein described.

In witness whereof I have hereunto set my hand.

BERNHARDT E. HENRIKSEN.

Witnesses:
S. H. NOURSE,
H. C. LEE.