

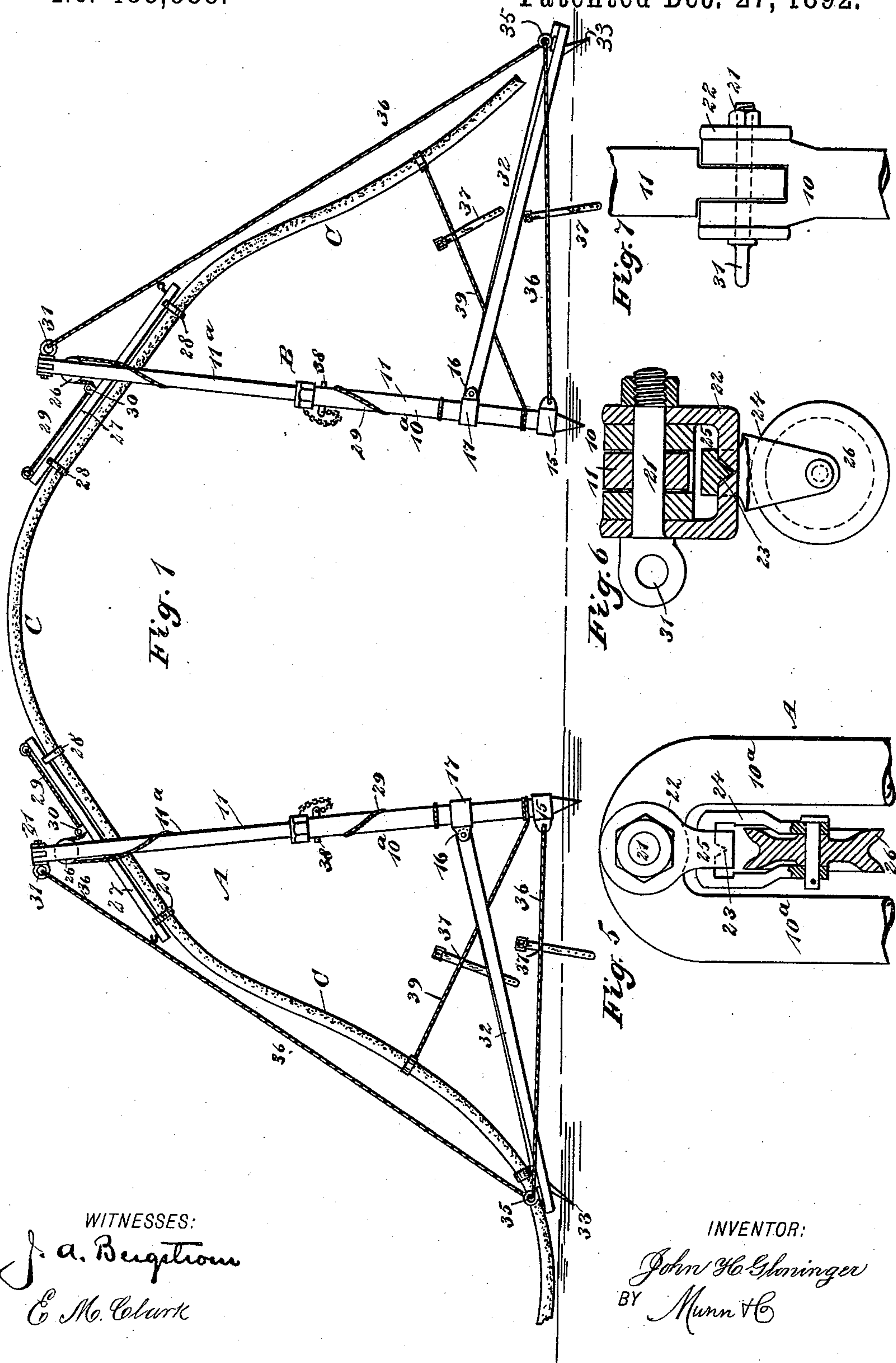
(No Model.)

2 Sheets—Sheet 1.

J. H. GLONINGER.
HOSE BRIDGE.

No. 488,888.

Patented Dec. 27, 1892.



WITNESSES:

J. A. Bergeton
C. M. Clark

INVENTOR:

John H. Gloninger
BY Munn & Co

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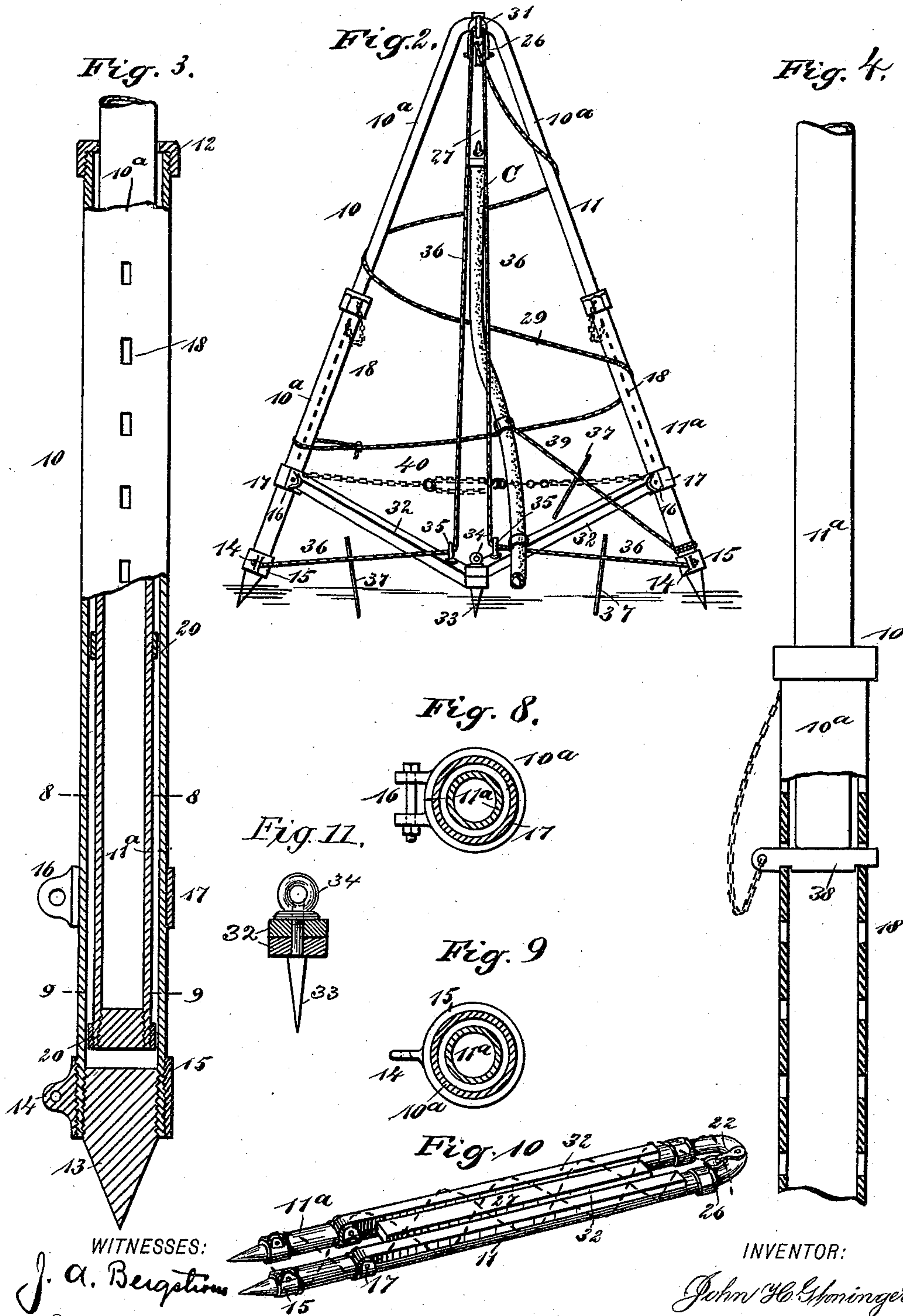
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UNITED STATES PATENT OFFICE.

JOHN H. GLONINGER, OF PITTSBURG, PENNSYLVANIA.

HOSE-BRIDGE.

SPECIFICATION forming part of Letters Patent No. 488,888, dated December 27, 1892.

Application filed February 4, 1892. Serial No. 420,263. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. GLONINGER, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Hose-Bridges, of which the following is a full, clear, and exact description.

My invention relates to an improvement in hose bridges, and has for its object to provide a device capable of supporting a hose at an elevation to form an arch without interfering with the flow of water through the hose, and whereby a passage may be provided for vehicles, street cars, railway cars, engines and motors, and for pedestrians.

A further object of the invention is to provide a device of the character above set forth, which will be extremely simple, durable and economic in construction, and capable of supporting a hose in an efficient manner, and also capable of being expeditiously and conveniently set up and of being folded into a compact form and in a small space for convenience in transportation and storage.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a hose bridge, illustrating a hose in position thereon; Fig. 2 is an end view of the structure; Fig. 3 is a partial vertical section and side elevation of one of the legs of the structure, illustrating it in its telescoped position; Fig. 4 is a similar view to Fig. 3, illustrating, however, one section of the leg as carried outward from the other and the support for the upper section; Fig. 5 is a partial side elevation and section of the upper portion of two of the pivotally connected legs; Fig. 6 is a vertical section through the pivoted portion of said legs; Fig. 7 is a plan view of two of the legs, illustrating the manner in which they are connected; Fig. 8 is a transverse section through one of the legs, taken practically on the line 8—8 of Fig. 3; Fig. 9 is a transverse section taken essentially on the line 9—9 of Fig. 3; and Fig. 10

is a perspective view of two pivoted legs of the structure in a folded position and ready for transportation or storage. Fig. 11 is a detail view hereinafter referred to.

The structure virtually comprises two sections A and B, which sections are of the same construction. The two sections in practice are adapted to be located one opposite the other, or practically so, and at a predetermined distance apart. A section comprises two legs 10 and 11, which legs are in two sections 10^a and 11^a. The section 10^a is the outer section and is tubular, being provided at one end with an apertured cap 12, screwed thereon or removably attached thereto, and a pointed plug 13, screwed into or otherwise attached to its lower end. At the bottom of the outer section 10^a, a band 15, is screwed upon said section, or is otherwise attached, which band has formed therein or thereon an eye 14; and above the band 15 a second band 17, is clamped by means of a screw or the equivalent thereof, as shown in Fig. 8, and this latter band is provided preferably with two apertured lugs, through the apertures of which the screw or bolt passes. It will be understood that this band is split in order that it may be loosened or tightened upon the section. Near the upper end of the outer section it is provided with a series of longitudinally arranged openings 18, which openings are diametrically in alignment, being formed in opposite sides and within the outer section 10^a. The inner section 11^a is adapted to slide essentially with a telescopic movement. This inner section is preferably made of much less diameter than the outer section, and if in practice it is found desirable it may be provided with a guide ring or clamp 20, secured thereto and held in engagement therewith by frictional contact. The inner section is also made tubular in the interest of lightness, but its upper and lower ends may be made solid, the lower end especially. The upper end of the inner section of each leg 10 and 11, is inwardly bent, and the two legs are connected at their upper ends by a pivot pin 21, one leg being forked at its upper end, as shown in Fig. 7, and the other leg is provided with a tongue adapted to enter between the members of the fork. The pivot pin 21, is likewise adapted to hold in suspension a strap 22, shown in Figs. 6 and 7. This

strap is somewhat U-shaped, as it extends beneath the pivoted legs at their pivot point, and in its lower portion it is provided with an essentially conical concavity 23; and a second strap 24, is supported from the upper strap 22, the lower strap being provided with a practically conical extension 25, to enter the correspondingly shaped concavity in the upper strap; and the lower strap has pivoted between its members a pulley 26, as shown in Figs. 5 and 6. Thus the first strap has movement upon the pivot bolt or pin 21 in one direction, and the second strap has pivotal movement upon the first or upper strap.

In connection with the legs of the section a hoist or supporting block or bar 27, is employed. This block may be of any desired length, and is provided with straps or hangers 28 of any approved construction, adapted to surround and clamp the hose C to be elevated. At one end, preferably the upper end of the block 27, a rope, chain or cable 29, is secured. This rope, chain or cable is then made to pass over a guide pulley 30, or its equivalent, located centrally upon the upper surface of the block, and thence over the pulley 26, and after the block has been elevated to the desired height, the rope, chain or cable is preferably wound around the legs of the section, as shown in Fig. 2, and secured at its free end in any suitable or approved manner to one of the legs; but if in practice it is found desirable the rope, cable or chain 29, may be attached directly to the block or bar 27, at or near its center.

The pivot bolt 21 has an eye 31, formed in one end, ordinarily its outer end, and between the eyes or lugs 16 of the clamp collar of each leg a brace bar or rod 32, is pivoted. The overlapped ends of the bars or rods 32, 32 are connected by the upper threaded end of the tooth 33, see Fig. 11, on which screws the locking eye-nut 34, whereby the said bars are pivotally connected and may be readily disconnected. Each bar or brace near its outer end is provided with an eye 35, or its equivalent, and a rope, chain or cable 36, is secured at its ends to the eyes 14, at the lower ends of the legs, from whence it is carried out through the eye 35 upon the brace bars and through the eye 31 at the pivot of the legs, as is likewise best shown in Figs. 1 and 2. This rope, chain or cable 36, has attached thereto straps 37, or other form of clamp, adapted to embrace a hose and hold it at its lower end in different positions so that it may be guided in the direction of either side, and similar straps or clamps may be attached to the rope, chain or cable 29, if in practice it is found desirable, or instead of one continuous rope 36 two ropes may be employed for connecting the braces with the legs.

In setting up the structure the inner sections of the legs are drawn outward until the end sections are of the desired height. When this is accomplished a key 38, is passed through aligning apertures 18 in the lower section of

each leg in such a manner as to cause the lower ends of the inner sections to rest thereon, as shown in Fig. 4. The ends of the legs are then driven into the ground, and the brace bars are carried outward and pivotally connected, the hose having first been lifted above them, and the tooth in their pivotal ends is driven into the ground. This will impart to the legs of the sections a slight outward inclination. After the two sections have been placed in position, one virtually opposite the other, the hose is attached to the block or bar 27 of each section, and the said blocks or bars are elevated by manipulating the cables 29, until the hose is carried in the form of an arch and is supported in that position some distance above the ground. The hose upon being led downward may be clamped by any of the straps 37, or whatever equivalent is employed, and may likewise be held and supported by an auxiliary rope 39, attached to the hose and to one of the legs.

When not in use the two sections of the legs are made to telescope, reducing them to a minimum of length. They are then folded close together, as shown in Fig. 10, the block or bar 27 being placed between them and the braces 32 upon them; and the cables may be wound lengthwise over the parts with which they are connected, or may be employed to wrap the legs and their auxiliary attachments in the shape of a package, likewise clearly shown in Fig. 10.

The legs 10 and 11 are kept from spreading apart too great a distance when set up by means of chains 40, attached to them, said chains being connected by any suitable tie to the eyes in the clamp ring 17 of the brace arms 32.

I desire it to be distinctly understood that the block and tackle shown in the drawings for elevating the hose upon the standards or supports may be omitted, and that the hose may be attached to a supporting bar connected with the standards before the standards are elevated, if in practice it is found desirable.

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

1. In a hose bridge, a supporting section consisting in legs pivotally connected at their upper ends, braces pivoted to the lower portions of the legs and adjustably pivoted together at their opposite ends, and a downward projecting tooth or spur 30 at the point where the braces are pivoted together, substantially as described.

2. A hose bridge section, comprising longitudinally extensible legs pivoted together at their upper ends; and braces pivoted to the lower leg members and at their opposite ends pivoted together and there provided with a downward projecting spur or tooth, substantially as described.

3. A hose bridge consisting of two sections, each comprising two legs formed in telescopic sections and provided with a locking device

holding the sections in predetermined position, braces pivoted to the outer sections of the legs, a locking device pivotally connecting the outer ends of the braces, a tackle carried by the legs, a hoist bar or block, and a cable attached to the hoist bar or block, and passed through the tackle, substantially as and for the purpose set forth.

4. A hose bridge, the same comprising sections, each section comprising legs constructed in telescopic sections, the outer section being provided with key slots and a key, the upper ends of the legs being pivotally connected, whereby they may be spread to an inverted V or A shape, a pulley pivotally and adjustably suspended from the legs at their pivot, a hoist block, or bar a cable attached to the hoist block or bar and passed over the pulley, and braces connected with the legs, as and for the purpose set forth.

5. In a hose bridge, the combination, with a section consisting of pivotally connected and vertically adjustable legs, a tackle suspended

from the pivot of the legs, a hoist block or bar, and a cable attached to said block or bar and passed over the tackle, of guide ropes or cables attached to the legs near their base and extending upward therefrom, braces connected with the legs, and clamps adapted for engagement with the hose, as and for the purpose specified.

6. A hose bridge section, consisting in the legs pivotally connected at their upper ends, braces pivoted to the lower ends of the legs and adjustably pivoted together at their opposite ends, eyes on the braces adjacent to their pivotally connected ends, ropes, chains or cables extending from the upper end of the section down through said eyes and secured to the lower ends of the legs and hose straps or clamps secured to said ropes, chains or cables, substantially as described.

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Witnesses:

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J. LEDLIE GLONINGER.