

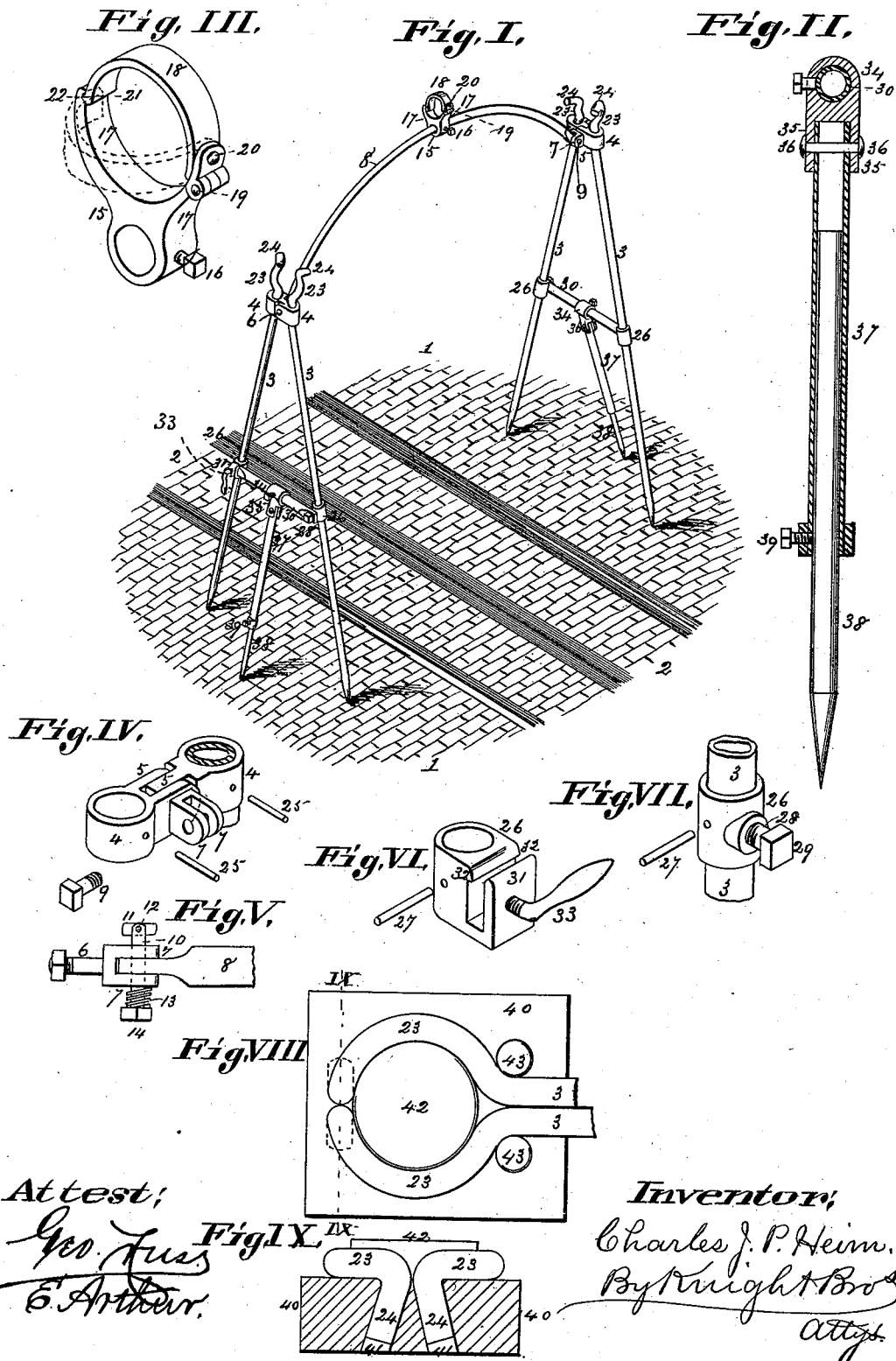
(No Model.)

C. J. P. HEIM.

HOSE BRIDGE.

No. 386,008.

Patented July 10, 1888.



UNITED STATES PATENT OFFICE.

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HOSE-BRIDGE.

SPECIFICATION forming part of Letters Patent No. 386,008, dated July 10, 1888.

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To all whom it may concern:

Be it known that I, CHARLES J. P. HEIM, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Hose-Bridges, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This is a portable device for supporting fire-hose at an elevation, so as to carry it over a street-railway or other track.

Figure I is an isometric perspective view of the device. Fig. II is an axial section of a brace. Fig. III is a perspective view of the arch-strap, through which the hose passes. Fig. IV is a perspective view of the standard-sockets. Fig. V is a detail top view of a connection between one end of the arch and the standard-sockets. Fig. VI is a perspective view of one of the standard cross-bar sockets. Fig. VII is a perspective view of the other cross-bar socket. Fig. VIII is a top view of the forming-block for forming the jaws at the top of the standards. Fig. IX is a vertical section at IX IX, Fig. VIII.

1 represents a street, and 2 a car-track.

3 are standards or legs which are shown pointed at bottom, so as to take a firm hold of the street. These legs I prefer to make of gas-pipe for combined lightness and strength; but they may be made of solid iron. Upon each leg 3, near the upper end, is a collar, 4, having ear or ears 5, forming members of a hinge, by which the collars are connected together. Thus the two legs at each end are jointed together at this point. The pintle 6 of this joint has ears 7, to which are jointed the ends of an arched tube or bar, 8. The hinge-joint at one end of the arched tube or bar 8 is preferably connected by means of a common bolt or screw, 9, and then the parts can only be disconnected at this point by unscrewing the screw or nut, while at the other end the hinge-joint has a detachable pintle, 10, having at the end a pivoted bar, 11, occupying a diametric slot of the bolt and turning on a pintle, 12, so that it may be placed in line with the pintle or placed crosswise thereto, as shown in Fig. V. When in the former position, the pintle can be passed through the holes in the ears 7 and end of the arch 8; but when the locking-piece is cross-

wise to the bolt or pintle the latter cannot be drawn out of the ears.

13 is a spiral spring surrounding the pintle between the head 14 of the same and one of the ears 7. The purpose of the spring is to keep the cross-bar 11 in contact with the ear 7, and thus keep it in a position crosswise to the pintle. To remove this pintle, it is only needed to push it into the position shown in Fig. V, and turn the cross-bar into line with the shank of the pintle, as seen in broken lines, when the pintle may be simply pulled out and the arch thus disconnected from the ears 7. The arch has upon it one or more collars, 15, secured to it by set-screws 16, and having horns 17, forming a fork into which the hose may be laid.

18 is a strap, which is hinged to one of the horns 17 by a universal joint, 19 20, which allows the strap to be simply thrown back to open the fork for the reception of the hose or be put in a position spanning the fork, (by use of the hinge 19,) or be turned, as seen by broken lines in Fig. III, so that it will not project beyond the points of the horns, (by use of the hinge 20.) At the opposite end of the strap from the hinge is a cross-rib, 21, which, when the strap spans the fork, as seen in Fig. III, engages in a notch, 22, of the horn and holds the strap down upon the hose.

The parts of the legs or standards 3 which are above the collars 4 have curved parts 23, which are formed to embrace the hose when the device is in use, such position being shown in Fig. I. The shape of the parts 23 is preferably such as to spread out, as seen in Fig. I. The parts 23 have extensions 24, which are so bent as to form forks for the reception of the hose when the legs are laid down on the ground preparatory to elevating the device. The collars 4 may be secured to the legs by pins 25 passing through one or both sides of the collar and the leg.

26 are collars, which may be fixed on the legs at any place between their lower ends and the collars 4. Pins 27 may be used to fix them in position in the same manner as the collars 4. The collar 26 upon one of the legs has a pivot, 28, with a head, 29.

30 is a cross-bar, one end of which swings on the pivot 28. The bar I prefer to make of

gas pipe, which may be heated and flattened at both ends. The collar 26 upon the other leg has a hook, 31, fitted to receive the flattened end of the cross-bar, with a lip, 32, projecting into the upper edge of the slot, so that after the end of the bar has been placed in the hook it may be moved toward the leg, so that the lip 32 takes over the top of the bar and prevents its upward movement. The bar is secured in this locked position by a set-screw, 33, whose end bears against the outer side of the bar and holds it in its position below the lip 32.

34 is a collar upon the cross-bar 30, secured in position by a set-screw.

35 are jaws upon the collar, through which passes a pintle-pin, 36, by which the brace-leg 37 is hinged to the collar. The upper part of the brace-leg is made tubular, and within this tube slides the foot-rod 38, said rod being fixed in position by a set screw. The two ends of the device are of exactly similar construction, except as to their connection with the arch, as described. It will be seen that the two brace-legs will prevent the endwise sway of the device.

The arching of the arch-bar 8 is important for two reasons: It avoids abrupt bends in the hose at the forks 23, owing to the obtuseness of the angle between the arch and a vertical line at that point, and from this cause the passage of water will be impeded in a less degree. The arched form allows the use of shorter legs than would be required if the bar 8 were straight, because it is necessary that the way should be clear to a certain height over the center of the track 2, owing to that being the highest part of the car.

The operation is as follows: The device is brought to the ground in a folded condition and laid transversely across the track 2. In the folded condition cross-bars 30 are disconnected from the hooks 31, so that the cross-bars 30 will be in line with the legs, and the brace legs 37 are also bent at the joint 36, so as to lie parallel with them, and the legs are folded longitudinally, so as to overlap each other beneath the arch. The hose is now laid on the folded frame between the parts 23 and the horns 17. A person takes hold of each end, and he lifts the device straight upward until the legs may be made vertical. Then the lower ends of the legs are moved apart and the free ends of the cross-bars 30 fixed in the hooks 31. Now the brace-legs are put in position and the extension foot-bar 38 locked in position by the set-screw 39. The parts 23, with their extensions 24, are described as formed in one piece with the legs or standards; but this construction is not essential, for they may be made in separate pieces from the legs and attached to the collars 4.

In Figs. VIII and IX are shown enlarged views of the parts 23, with their extensions 24, and also the die or block 40, by use of which they are bent into the proper form. The block has two holes, 41, into which the ends or ex-

tensions 24 are inserted, one at a time, and bent down flat on the block, a hammer or other means being used to force them down. The tube or rods are then swung around the stud 42, which is made of about equal diameter to the hose of a fire-engine. Then a pin, 43, is placed in the block and the tube or rod bent backward, so as to take the form shown in Fig. VIII. The tube or rod should be heated before bending, and where a tube is used it is preferably filled with sand, (before bending.)

I claim as my invention—

1. The combination, in a hose-bridge, of two pairs of legs or standards, each pair hinged together, and having extensions 23, adapted to hold the hose when the legs are erect, with side extensions, 24, adapted to hold the hose while the legs are prone, and a connection hinged at the ends to the pairs of legs, substantially as and for the purpose set forth.

2. The combination of the two pairs of legs or standards, jointed together near their upper ends and having above the joints branching parts adapted to support a hose, and a curved connection between the legs or standards having a fork adapted to support the hose.

3. The combination of two pairs of legs, with joints near the top of each pair, branching parts above the joints adapted to support a hose, and a connection between the pairs having a fork adapted to support the hose, and a strap adapted to hold the hose down in the fork.

4. The combination, in a hose-bridge, of two pairs of legs connected together, and each pair having a cross piece or bar, 30, pivoted to one of the legs, a fork on the other leg adapted to receive the free end of the cross-piece, and a set-screw adapted to fix the said end in the fork.

5. The combination, in a hose-bridge, of two pairs of legs or standards, the legs of each pair connected by a joint near the top and extending above the joint in parts, forming jaws adapted to embrace a hose, a connecting-bar, 8, between the pairs of legs, with a fork upon it for the support of the hose, a cross-bar between the legs of each pair, and a brace extending from said cross-bar to the ground, substantially as and for the purpose set forth.

6. The combination, in a hose-bridge, of two pairs of legs or standards connected by a bar to which they are jointed, branched parts or forks at the tops of the legs and on the connecting-bar adapted to support the hose, and a brace-leg, 37, connected to each pair of legs, to prevent endwise sway of the bridge.

7. The combination, in a hose-bridge, of two pairs of legs jointed to a connecting-bar, and each pair jointed together and having above the joint parts 23, moving with the legs and adapted to clasp the hose on the separation of the lower ends of the legs, and a cross-bar, 30, pivoted to one leg of the pair and having disconnectible attachment to the other leg of the pair, for the purpose set forth.

8. The combination, in a hose-bridge, of two

pairs of legs jointed to a curved connecting-bar, 8, having a fork for support of the hose, the legs of each pair jointed together at 6, and branching parts 23, one fixed to each leg, so as to move therewith, substantially as and for the purpose set forth.

9. The legs for a hose-bridge connected in pairs by joints and the pairs connected by a bar to which they are jointed, and parts 23, with extensions 24, fixed to the legs above the joint, substantially as and for the purpose set forth.

10. The combination, in a hose-bridge, of two pairs of legs connected together by a curved bar, 8, by means of joints, a fork on the curved bar, with a strap connected to it by a double joint, parts 23, with extensions fixed to the legs above the joint, cross-bars 30, having pivotal connection to one leg of each pair and an adjustable attachment to the other leg, and a brace-

leg, 37, connected to the cross-bar and having a pivot at 36, substantially as set forth.

11. The combination, in a hose-bridge, of the connecting-bar 8, and hose-supporting fork having horns 17, and a strap, 18, connected to one horn by a universal joint, 19 20, and connected to the other horn by a catch, all constructed substantially as and for the purpose set forth.

12. In a hose bridge, the connecting-bolt 10, having a cross-bar, 11, pivoted to the bolt and capable of being turned in line with the bolt or crosswise thereto, in combination with a spring, 13, acting to keep the cross-bar 11 in contact with the object through which the bolt passes, substantially as set forth.

CHAS. J. P. HEIM.

In presence of—

SAML. KNIGHT,
JAS. E. KNIGHT.