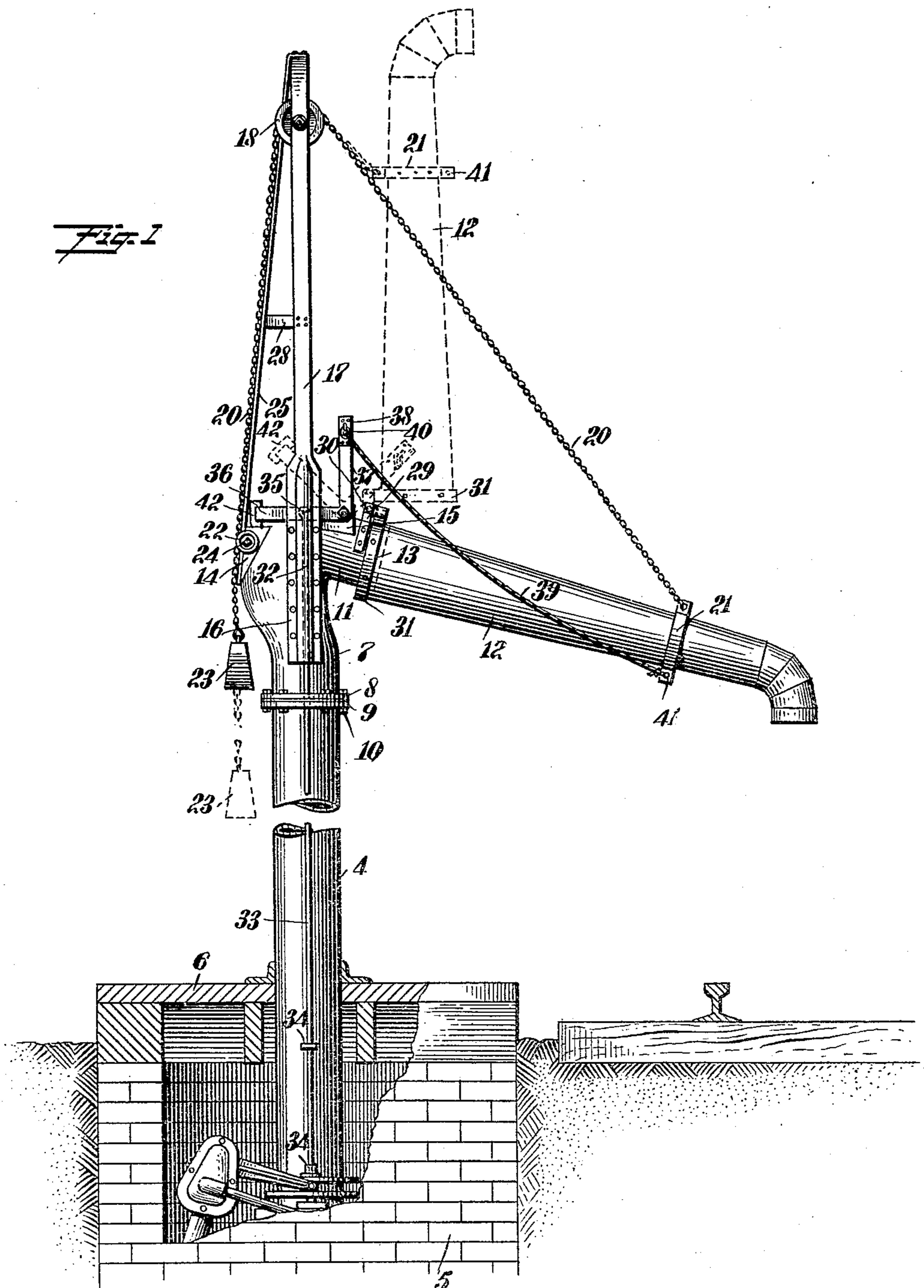


P. H. KNIGHT.
STAND PIPE FOR RAILWAY WATER SUPPLY.
APPLICATION FILED SEPT. 13, 1909.

958,504.

Patented May 17, 1910.

2 SHEETS—SHEET 1.



WITNESSES
E. L. Bromley,
E. M. Moore

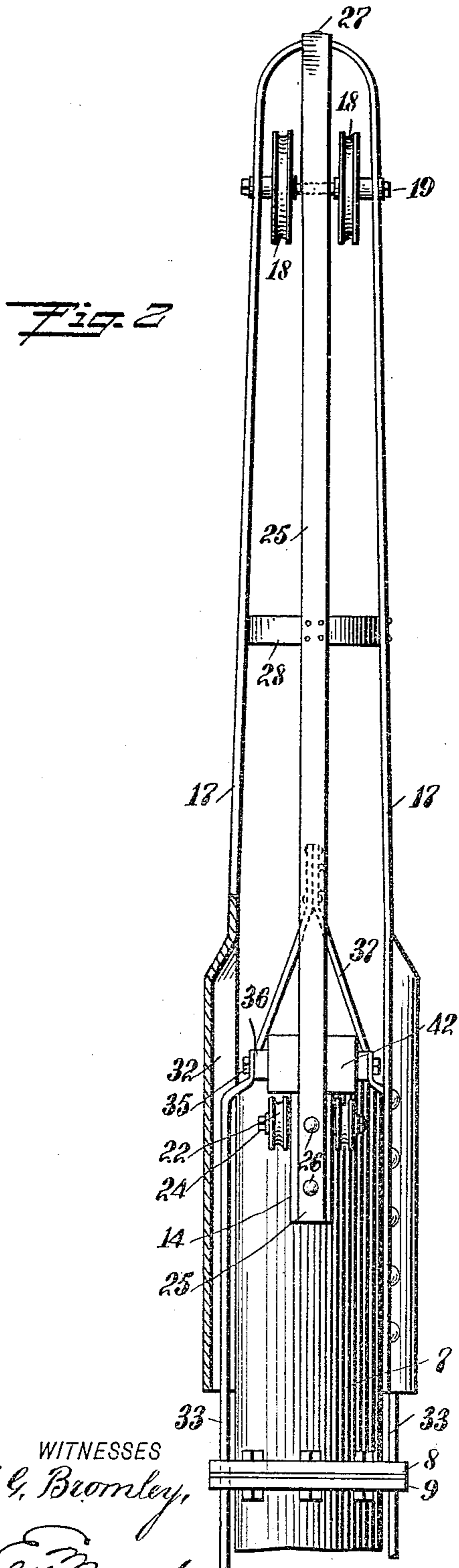
INVENTOR
Patrick Henry Knight
BY
Wm. H. Knight
ATTORNEYS

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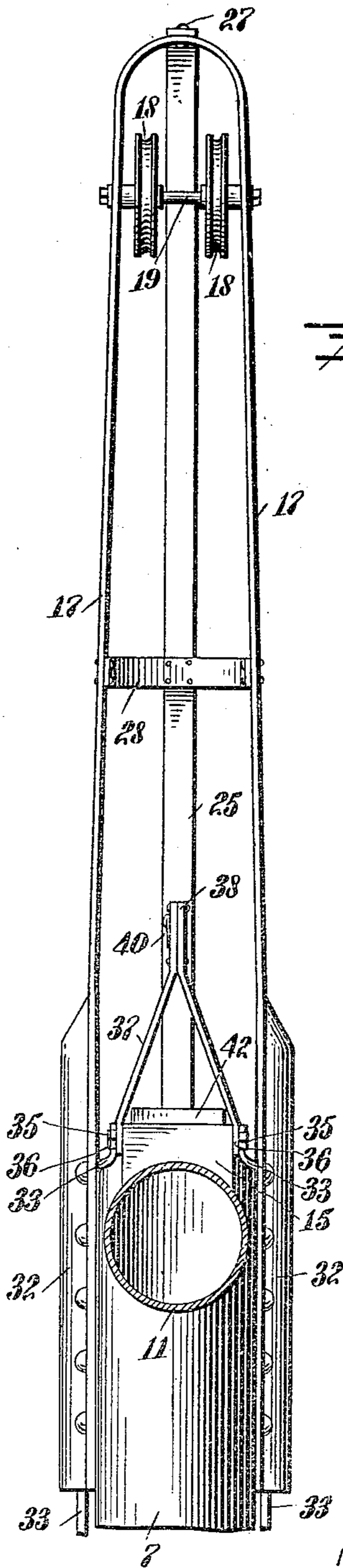
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2 SHEETS—SHEET 2.



WITNESSES
E. G. Bromley,
C. A. Mudock



INVENTOR
Patrick Henry Knight
BY
Attorneys

UNITED STATES PATENT OFFICE.

PATRICK HENRY KNIGHT, OF ST. JOSEPH, MISSOURI.

STAND-PIPE FOR RAILWAY WATER-SUPPLY.

958,504.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed September 13, 1909. Serial No. 517,437.

To all whom it may concern:

Be it known that I, PATRICK HENRY KNIGHT, a citizen of the United States, and a resident of St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and Improved Stand-Pipe for Railway Water-Supply, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide a construction for a stand pipe wherein the operative parts are constructed in a form light, strong and durable; to provide a construction wherein the usual splashing or loss of water incident to the operation of drawing same at the water stations is eliminated; to provide an operating mechanism which is compact, certain and easy of manipulation; and to provide a construction adapted to compensate the disadjustment incident to employment in the ordinary service.

One embodiment of the present invention is disclosed in the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a side elevation of a stand pipe constructed in accordance with my invention; Fig. 2 is a rear elevation of a stand pipe and standing rigging thereon; and Fig. 3 is a front elevation of the construction as shown in Fig. 2.

The stand pipe 4 is constructed and mounted as are those at present installed in the railway service. The valve for controlling the flow is located at the lower end of the said stand pipe, being properly housed in the masonry 5 and suitably inclosed by the deck 6. The pipe 4 is extended to any desired or required height and is provided with a head 7. The head 7 is formed substantially as shown in the drawings, having a vertical extension upon which is formed a flange 8 having suitable bolt holes to register with similar bolt holes formed in a flange 9 constructed on the upper end of the pipe 4. The two flanges 8 and 9 are rigidly secured by means of bolts 10, 10. The vertical extension of the head 7 leads into a downwardly extended section 11 whereby the water is checked in its upward rush and turned within the head 7 prior to leaving by the section 11.

From the section 11 the water is transported into a suitable spout 12, there being

provided in the section 11 an extended end 13 which protrudes within the rear end of the spout 12. The spout 12 is of sufficient length to extend between the rails of the road bed and in convenient position to be directed to the manhole of the water tank of the locomotive. By means of this connection much of the rush of the water is overcome, the enlargement of the spout 12 providing for the water introduced therein from the section 11 of the head 7. The body portion of the head 7 is cylindrical in form as to the major portion thereof, and is provided with brackets 14 and 15, upon which are mounted movable members of the running rigging for the manipulation of the spout 12 and the water valve operating mechanism. The bracket 14 is extended from the rear of the head 7 while the bracket 15 is extended from the top thereof. From each side of the head 7 are extended flattened bodies to which are bolted the hollow lower ends 16, 16 of a mast 17. The mast 17 is formed of suitable bar metal and shaped to a narrow elongated yoke, the flat extensions whereof are carried to the height desired for the disposition of the supporting pulleys 18, 18. The pulleys 18, 18 are mounted upon a suitable shaft 19 which is extended through bearings in the mast 17, and are adapted to receive supporting chains 20. The supporting chains 20 are secured to a band 21 which is suitably clamped to the spout 12 at the forward end thereof. The chains 20 extend to the rear of the head 7 and are carried past the same by rollers 22, 22 provided to receive and to guide the chains 20. At the lower end of the extension of the chains 20 below the rollers 22, are attached weights 23 of which there are two in number, one for each chain 20. The rollers 22 are mounted on a suitable short shaft 24 which is passed through the bracket 14.

The mast 17 is braced by a stay rod which is bolted at 26, 26 to the bracket 14, and at 27 to the upper end of the yoke formed by the mast 17. The alinement of the stay rod 25 and the sides of the mast 17 is further preserved by a short brace which is riveted or otherwise rigidly secured to the mast 17 and the stay rod 25.

The spout 12 is hinged to the section 11 of the head 7, so that the said pipe may assume the vertical position shown in dotted

lines in Fig. 1 of the drawings. This hinge is formed by mounting rigidly on the section 11, straps 29, of which there are two half sections bolted or riveted securely upon the section 11 and adapted to receive a hinge bolt 30. Upon the inner or rear end of the spout 12 is securely mounted by being riveted thereto a reinforcing strap 31, the ends of which are joined to meet upon the interposed piece extended at an angle to its disposition upon the spout 12, or are either welded or bent at an angle substantially perpendicular to the body of the strap 31. Whether formed integrally or pieced, the angular extension set out from the strap 31 is suitably pierced to receive the hinge bolt 30. In this mounting provision is made to not fit the parts too closely, so that the spout 12 may be swung loosely at the delivery end to provide for the necessary failure to place the manhole of the water tank in exact relation to the delivery end of the said spout.

The lower ends 16 of the mast 17 are protruded to form channels or housings 32, 32, in the inner side of which are operated the lifting rods 33, 33. The rods 33, 33 are passed through the flanges 8 and 9, extending through perforations formed therein to act as guides for the said rods. The rods 33, 33 are provided with guide loops 34, 34 extended from the sides of the pipe 4. The rods 33, 33 operate the valve for opening and closing the water supply of the pipe 4. The upper ends of the rods 33, 33 are pivotally secured at 35, 35 to the lifting arms 36, 36 of a bell crank lever 36, 37. The bell crank lever 36, 37 is provided with the two lifting arms 36, 36, extensions of which are converged and joined to form a head 38 to which an operating cable 39 is attached, a ring 40 being provided to receive the said cable. The cable 39 is passed through an eyelet 41 formed in the lower extension of the band 21.

The lifting arms 36, 36 are joined by an extension passing across the rearward ends of the same, whereon is mounted a counter-balancing weight 42, which normally rests upon the top of the bracket 14 and is supported thereby. The weight is sufficient to return the bell crank lever 36, 37 to its normal position wherein the rods 33, 33 are depressed to close the water supply valve of the pipe 4.

Having an apparatus constructed as above described and as illustrated in the accompanying drawings, the operation is as follows: The locomotive driver having brought his locomotive to a stand so that the delivery end of the spout 12 will aline with the manhole in the water tank of the tender for the said locomotive, the spout 12 is depressed from the inoperative position, which is shown in dotted lines in Fig. 1,

until it is extended as shown in the full lines in the said Fig. 1. It will be noticed that in coming to the position shown in full lines in Fig. 1 that the end 13 of the section 11 of the head 7 is extended into the rear end of the spout 12. The operator now grasps the cable 39 to pull the same to throw the bell crank lever 36, 37 to the position shown in dotted lines in Fig. 1, raising the lifting arms 36, 36 to lift the rods 33, 33 and open the water supply valve. When the desired amount of water has been drawn the operator releases the cable 39, when the weight 42 will fall to its seat upon the bracket 14, depressing the rods 33, 33 and closing the water supply valve. With this action the supply of water is suspended, and the operator releases his grasp upon the spout 12, when the weights 23 exert a lifting pull upon the chains 20 to draw the spout 12 to the raised or vertical position shown in dotted lines in Fig. 1.

The inclination of the spout 12 is usually such that no water will stand in the said spout when the valve is closed, therefore when the spout is raised there is no leakage of water therefrom. Also by reason of the inclined position of the section 11 of the head 7, there is no standing water in this extension and therefore no leakage or dripping therefrom after the spout 12 is raised to the inoperative position.

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

1. A stand pipe for railway water supply, comprising a stand pipe; a head for said stand pipe having brackets extended from the top and rear thereof; a bell crank lever pivotally mounted on the top bracket and provided with a counter-balancing weight disposed to normally rest upon the rear bracket; a valve controlling the flow of water through the said stand pipe; and operating means for said valve connected with the said bell crank by means of pull rods.

2. A stand pipe for railway water supply, comprising a stand pipe; a head for said stand pipe having brackets extended from the sides thereof and from the top and rear thereof; a yoke-shaped mast secured to said side and rear brackets and extended above the said stand pipe to support the running rigging for the delivery spout; a shaft extended between the sides of said yoke near the upper end thereof; anti-friction devices mounted on said shaft and on the said rear bracket; a delivery spout hingedly secured to said head to envelop the delivery end of said head; a flexible hoisting member secured to said spout and reeved over said pulley, said anti-friction devices being mounted in the upper end of said yoke and on said rear bracket; and a counter-balance

ing weight sufficient to raise the said spout to a vertical position, secured to the end of said flexible hoisting member.

3. A stand pipe for railway water supply, comprising a stand pipe; a head for said stand pipe having brackets extended from the sides, rear and top thereof; a mast constructed from strap-shaped members arranged in tripod order, the lower extensions whereof are grooved to provide housing for valve pull rods; a shaft extended between the sides of said members of said mast near the upper end thereof; pulleys mounted on said shaft; a delivery spout hingedly secured to said head; flexible hoisting members secured to said spout and reeved over said pulleys; counter-balancing weights mounted on said hoisting members and adapted to raise the said spout; a bell crank lever

mounted on the top bracket on said head; 20
a counter-balancing weight secured to the said lever and adapted to rest upon the rear bracket on said head; a valve to control the flow of water from said stand pipe; means for operating the said valve; pull rods connecting said means with said bell crank, said rods extending through said housing in said mast; and means for operating the said lever to raise the said pull rods and counter-balancing weight connected therewith. 25 30

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PATRICK HENRY KNIGHT.

Witnesses:

ORESTES MITCHELL,
CHAS. COMPTON.