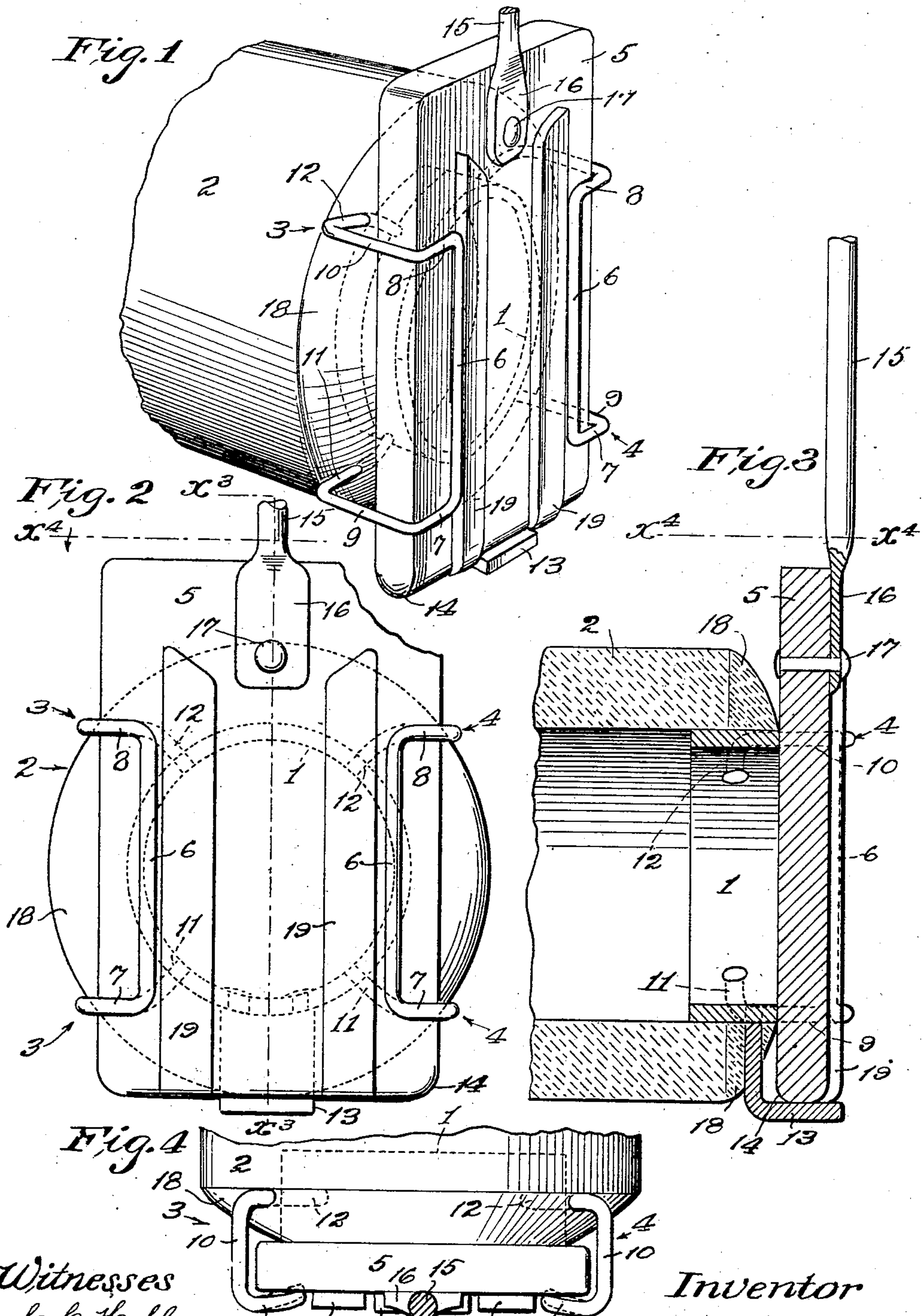


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IRRIGATING PIPE GATE.
APPLICATION FILED APR. 21, 1909.

969,320.

Patented Sept. 6, 1910.



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UNITED STATES PATENT OFFICE.

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IRRIGATING-PIPE GATE.

969,320.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed April 21, 1909. Serial No. 491,377.

To all whom it may concern:

Be it known that I, HENRY ELMER WORLEY, a citizen of the United States, residing at Redlands, in the county of San Bernardino and State of California, have invented a new and useful Irrigating-Pipe Gate, of which the following is a specification.

In southern California, water for irrigation is frequently taken from ditches by means of concrete pipes that are set in the earth and extend through the wall of the ditch. Means for closing and regulating the orifice through these pipes must be provided so that the water can be shut off from flowing through the pipes when the water in the ditch is high enough to flow into the pipes.

An object of this invention is to provide convenient, cheap and satisfactory means for applying adjustable gates to the ends of such pipes.

The invention also is adapted for application in case of metal or other pipes, as will hereinafter more fully appear.

The invention may be embodied in different forms, and I do not limit the same to a specific form of construction.

The accompanying drawings illustrate the invention in the form I at present deem most desirable for concrete pipes.

Figure 1 is a perspective view of a gate as applied with a collar fitting inside a concrete pipe, the end of which is shown projecting from the inside wall of a ditch. Fig. 2 is a front elevation of the same. Fig. 3 is a section on line x^3 , Fig. 2. Fig. 4 is a plan from line x^4 , Figs. 2 and 3.

1 is a metal collar adapted to fit inside a concrete pipe 2. Said collar is provided with two spring clamping members 3, 4, which may be of spring wire of any suitable kind as iron, steel, copper, etc., extending from the collar and bent to receive between the clamping members and the collar a gate 5.

Each of the clamping members may consist of a single piece of wire having a middle clamping limb 6, and being thence bent at right angles at both ends of said limb 6 to form lower and upper arms 7, 8, and again bent to form lower and upper extensions 9, 10 that extend at right angles to the middle limbs 6 and lower and upper arms 7 and 8, and practically parallel with the axis of the collar; and again bent to form posts 11, 12 that are riveted or other-

wise secured in the collar 1. Said collar 1 may be of cast or wrought metal, and the inner ends of the posts 11 and 12 may be secured to the collar by riveting the ends or by casting the collar on the ends of the wires which form the posts. At the bottom of the collar a stop 13 is provided formed of a wire or strip of metal bent at right angles and secured at one end to the collar, and projecting downwardly therefrom, and there bent and extending with its free end beyond a vertical line drawn from the end of the collar, so that when a gate 5 of appropriate thickness is inserted downwardly between the clamping limbs 6 and the end of the collar it will wedge tightly between said limbs 6 and the end of the collar 1, thus to be held flat against the end of the collar so as to prevent water from flowing into the collar from the ditch or other source of supply. The upper ends of the middle limbs 6 are bent slightly aslant from the plane of the free end of the collar, and the main bodies of said limbs are parallel with such plane.

The gate may be rounded at its lower end as indicated at 14, so that it will not catch on any of the parts until the lower end of the gate has passed the lower side of the collar, when it will come to rest upon the stop 13. The gate 5 may be provided with a handle 15 that may be a rod flattened at one end as shown at 16, and secured by a rivet or other fastening means 17, to the gate. Said fastening means may be in the form of a pivot for allowing the handle to be turned down out of the way when not in use. The invention is not limited by the form of handle or its fastening.

To apply the gate to the cement pipe 2 the collar will be inserted into the end of the pipe, and luting 18 of cement is then applied around the collar and against the end of the pipe 2 so as to cement the collar firmly in the pipe. This luting may also embed the posts 11 and 12, thus permanently securing the collar in the end of the concrete pipe.

In practical use the head-gate 5 may be raised and lowered as desired, by the handle 15, to allow the requisite amount of water to flow through the concrete pipe.

It is understood that the collar and its attachments are not limited to use with concrete pipes, but that the collar may be fastened inside or outside other forms of pipe,

as for instance, cast or sheet iron pipe, wooden pipe, vitrified pipe, tiling, and so on.

It is also understood that the collar may be regarded as a section of pipe, and that
 5 in case of cast iron pipe or wrought iron pipe, or the like, which is of itself strong enough to hold the clamping members, said members may be connected with the pipe directly, in the same manner as they are
 10 connected with the collar in the form shown; the principle being that the clamping members are fastened to and extend from the sides of the pipe, thence bent in lines practically parallel with the axis of the pipe, and
 15 thence bent inwardly toward the axis of the pipe, so as to receive the gate between the inwardly-bent portions and the end of the pipe, and also preferably bent as shown in the drawings, toward the plane of the
 20 end of the pipe, so that when the gate is inserted it only engages the middle clamping limbs 6. A cleat or cleats may be applied to the gate to form guides to engage the middle clamping members 6. In the draw-
 25 ings 19 designates such cleats.

The gate may be made of wood, iron, or any other suitable material, and the handle for the gate may be of any desired construction.

30 The arms 7 and 8 are preferably bent oblique to the plane of the end of the column or pipe so that when the gate is inserted between said end and the upright middle limbs 6, practically the only engagement of
 35 the clamping member with the gate is along the inside faces of such limbs, and by reason of the rounded or tapered end 14 of the gate 5 the limbs may be forced out as the gate is shoved down into place, and the
 40 arms 7 and 8 are resilient so as to constantly press the gate against the end of the collar,

thus to hold the gate in place and tightly close that portion of the orifice covered by the gate.

In Fig. 4 dotted lines indicate the free
 45 position of the arms 8, it being understood that the arms 7 are immediately thereunder, and that when the gate is withdrawn the arms 7 and 8 will spring into the dotted
 50 position.

I claim:—

1. The combination with a pipe, of a gate to close the pipe, and two continuous wire clamping members each composed of a mid-
 55 dle limb extending parallel with the plane of the gate to form resilient arms and thence again bent to form lower and upper extensions extending lengthwise of the axis of the pipe, said limbs operating to hold the gate against the pipe.
 60

2. In a pipe head gate, a collar, wires fastened to the sides of the collar and bent to form limbs beyond the end of the collar, a stop fastened to the collar and extending
 65 below the end thereof, and a gate to fit between the limbs and the end of the collar, said stop being adapted to stop the gate.

3. The combination with a pipe, of a collar having wire members fastened thereto and extending beyond the end of the collar
 70 and there inwardly bent to form clamping limbs, luting to cement the collar to the pipe, the same embedding a portion of said wire members to retain the collar in place.

In testimony whereof, I have hereunto set
 75 my hand at Los Angeles, California, this 14th day of April, 1909.

HENRY ELMER WORLEY.

In presence of—

JAMES R. TOWNSEND,
 L. BELLE RICE.