No. 716,483. Patented Dec. 23, 1902.

A. C. RYAN.

ADJUSTABLE CONDUIT FOR TAKING WATER FROM RIVERS.

(Application filed Sept. 23, 1902.)

(No Model.) 2 Sheets—Sheet 1.

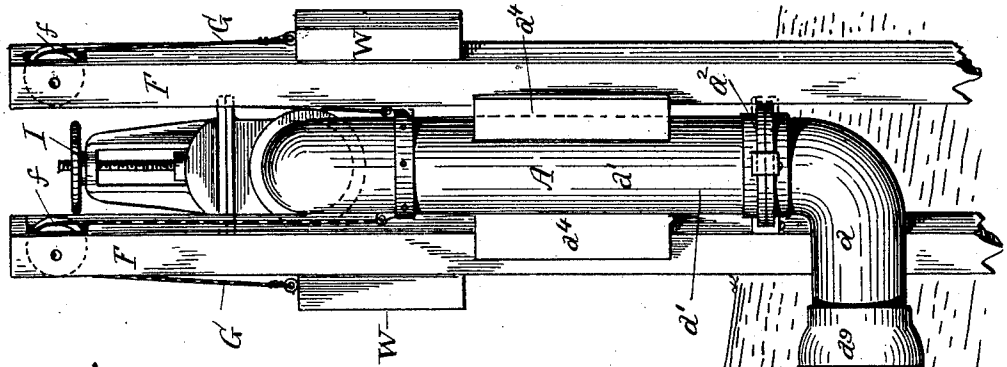


Fig. 1.

Fig. 2.

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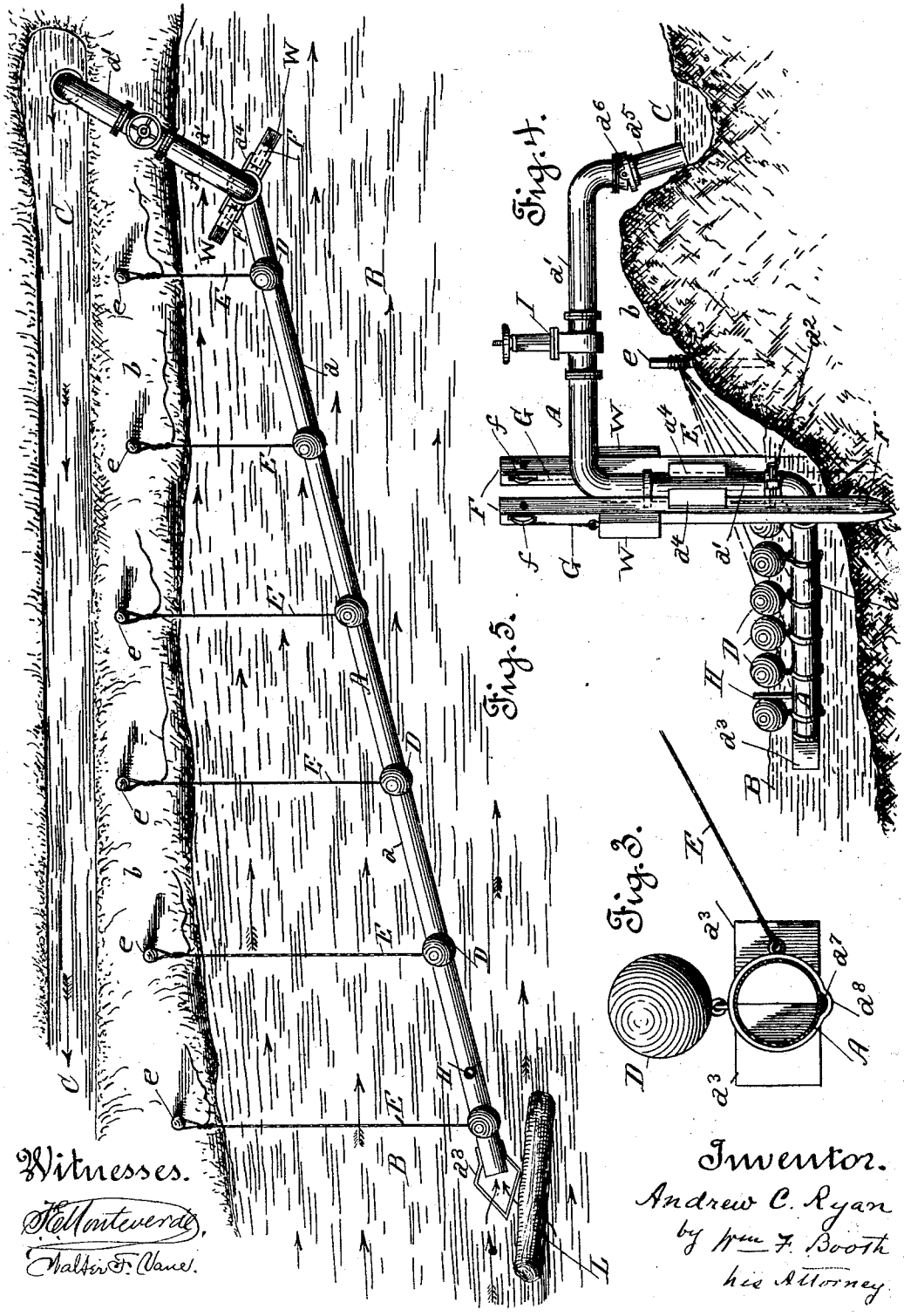


Fig. 4.

Fig. 5.

Fig. 3.

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UNITED STATES PATENT OFFICE.

ANDREW C. RYAN, OF CHEROKEE, CALIFORNIA.

ADJUSTABLE CONDUIT FOR TAKING WATER FROM RIVERS.

SPECIFICATION forming part of Letters Patent No. 716,483, dated December 23, 1902.

Application filed September 23, 1902. Serial No. 124,547. (No model.)

To all whom it may concern:

Be it known that I, ANDREW C. RYAN, a citizen of the United States, residing at Cherokee, Butte county, State of California, have invented certain new and useful Improvements in Adjustable Conduits for Taking Water from Rivers; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of devices or apparatus used for taking water from a point on the river higher up and conducting it to a ditch or flume at a point lower down to be used for mining or milling purposes or for irrigation.

My invention consists in the novel conduit, its construction, arrangement, and adjustment, which I shall hereinafter fully describe.

The object of my invention is to provide a simple, economical, and durable conduit for this purpose, one which can be readily placed in position, accurately adjusted to suit the requirements of its locality, and capable of automatically adjusting itself to the rise and fall of the river.

Referring to the accompanying drawings, Figure 1 is an enlarged elevation showing the lower end of the conduit. Fig. 2 is a similar view of the upper end, the two figures being broken and relatively disposed to show the elevation of the receiving end of the conduit at a point upriver where it is higher than its bend over the river-bank. Fig. 3 is a cross-section on the line $x\ x$ of Fig. 2 looking in the direction of the arrow. Fig. 4 is an end view of the entire device, taken transversely of the river-course. Fig. 5 is a plan of the device.

A is a pipe of suitable construction. It is composed of two portions. One portion a is to lie in the river B, and the other portion a' is to extend from the river over its bank b to the ditch C, as shown in Figs. 4 and 5. The river portion a is connected with the bank portion a' by a turnable joint or hinge at a^2 of any suitable character, (see Fig. 1,) whereby the river portion may swing out into the river at a greater or less angle, as may be required by the locality. This river portion is suspended in the water by means of floats D, and it is held to the bank and at the proper angle thereto by means of the chains or cables E, which extend to suitable anchors e on the bank, as seen in Fig. 5. The mouth or entrance to the river portion a of the conduit A is protected by prow-shaped plates a^3, Figs. 2 and 5, open above and below to admit the water, as indicated by the arrows, which said plates ward off floating debris, such as the log L. (Shown in Fig. 5.)

The whole conduit A is adapted to move up and down with the rise and fall of the river and is guided in this movement by the uprights or vertical guides F, driven into the river-bottom at the conduit portion a'. On the side of this portion a' are flanges a^4, which receive the guides F, whereby the whole pipe A may move up and down on said guides. To the portion a' of the conduit are secured cables or chains G, which pass over pulleys f in the uprights or guides F and carry weights W, which serve to counterbalance the conduit, Fig. 1.

The lower or ditch end of the conduit A is provided with a discharge-piece a^5, Fig. 4, which is jointed to the pipe at a^6, enabling said piece to be adjusted to a greater or less angle in a vertical arc to accommodate itself to the rise and fall of the conduit.

In order to stiffen the pipe portion a of the conduit against the water-pressure in the river, there are stiffening-bars a^7, Figs. 2 and 3, extending along the base of the pipe and held thereto by the encircling bands a^8, to which the floats D and the anchor-chains E are secured. An air-vent pipe H extends from pipe A to above the surface of the water. At a^9 in Fig. 1 I show a limited joint in the portion a, which may be placed there in order to accommodate the pipe to the inclination of the river and to its hinge at a^2 with the portion a'.

In the portion a' at any suitable point I place a gate I, here shown at the top of the bend, by which gate the flow of the water through the conduit may be controlled.

The whole device will be more fully understood from the following description of its setting up, its adjustments, and its operation. Having selected a place in the river favorable for its location, the river portion a of the conduit is extended far enough up the river to locate its mouth a^3 at a sufficient altitude to overcome any intervening rise of the bank

portion a' over the bank. In other words, the mouth a^3 is higher than any other part of the conduit. This I have shown clearly in Figs. 1 and 2. Now in accordance with the circumstances or requirements of the locality as to interferences of any nature the portion a of the conduit is allowed to swing out about its joint a^2 to any desirable angle into the river and is there held by the anchor-chains E, as shown in the plan view, Fig. 5. Its angle can be changed when desired by letting out or hauling in said chains. The bank portion a' of the conduit is guided by the uprights F, located wherever determined upon, and the discharge-piece a^5 is adjusted to deliver into the ditch C. If the river rises, the whole pipe A rises with it, and the discharge-piece is adjusted to suit. If the river falls, the whole pipe descends, and the discharge-pipe is turned toward a horizontal to still deliver into the ditch. The weights W counterbalance the pipe and make its movements easy. The water entering mouth a^3 will flow through the conduit and be delivered into the ditch.

The whole device is of simple construction and can be easily located and subsequently adjusted to suit varying conditions.

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

1. An adjustable conduit for taking water from rivers, consisting of a pipe, comprising a receiving portion extending up the river and floatingly suspended therein and a bank portion extending from the lower end of the receiving portion to the land, and a hinge connection between the two portions adapting the receiving portion to be extended into the river at various angles with its course.

2. An adjustable conduit for taking water from rivers, consisting of a pipe, comprising a receiving portion extending up the river and floatingly suspended therein and a bank portion extending from the lower end of the receiving portion to the land, a hinge connection between the two portions adapting the receiving portion to be extended into the river at various angles with its course, and anchor-lines adjustably connecting the receiving portion with the river-bank.

3. An adjustable conduit for taking water from rivers, consisting of a pipe comprising a receiving portion located in and extending up the river, and a bank portion extending from the lower end of the receiving portion to the land, means for floatingly suspending the receiving portion in the river, whereby it may rise and fall therewith, and means for vertically guiding the bank portion in its rise and fall with the receiving portion.

4. An adjustable conduit for taking water from rivers, consisting of a pipe comprising a receiving portion located in and extending up the river, and a bank portion extending from the lower end of the receiving portion to the land, a hinge connection between the two portions whereby the receiving portion may be extended into the river at various angles with its course, anchor-lines adjustably connecting the receiving portion with the river-bank, means for floatingly suspending the receiving portion in the river, whereby it may rise and fall therewith, and means for vertically guiding the bank portion in its rise and fall with the receiving portion.

5. An adjustable conduit for taking water from rivers, consisting of a pipe comprising a receiving portion located in and extending up the river, and a bank portion extending from the lower end of the receiving portion to the land, a hinge connection between the two portions whereby the receiving portion may be extended into the river at various angles with its course, anchor-lines adjustably connecting the receiving portion with the river-bank, means for floatingly suspending the receiving portion in the river, whereby it may rise and fall therewith, means for vertically guiding the bank portion in its rise and fall with the receiving portion and a discharge-piece adjustably connected with the land end of the bank portion.

6. An adjustable conduit for taking water from rivers, consisting of a pipe comprising a receiving portion located in and extending up the river, and a bank portion extending from the lower end of the receiving portion to the land, a hinge connection between the two portions whereby the receiving portion may be extended into the river at various angles with its course, anchor-lines adjustably connecting the receiving portion with the river-bank, means for floatingly suspending the receiving portion in the river, whereby it may rise and fall therewith, means for vertically guiding the bank portion in its rise and fall with the receiving portion, a discharge-piece adjustably connected with the land end of the bank portion and the prow-shaped protecting-plates at the mouth of the receiving portion.

In witness whereof I have hereunto set my hand.

ANDREW C. RYAN.

Witnesses:
WALTER F. VANE,
D. B. RICHARDS.