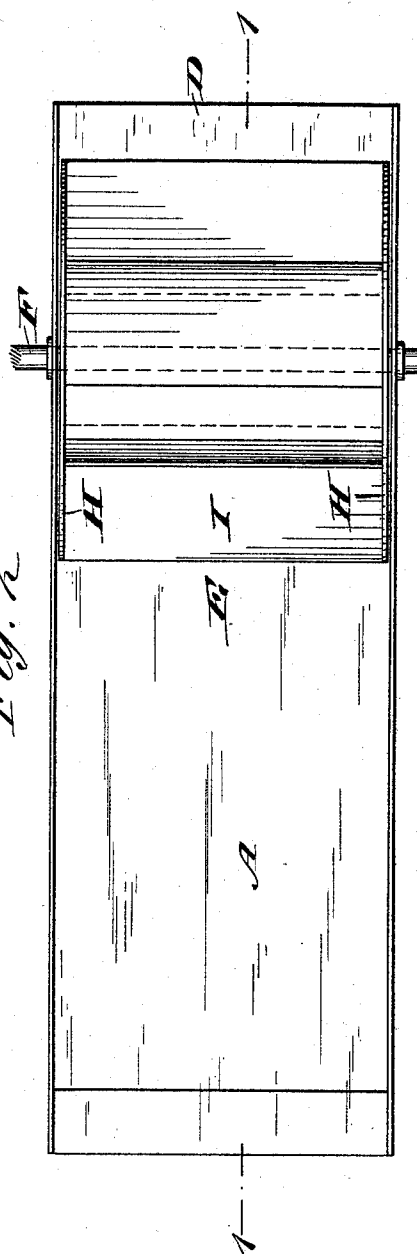
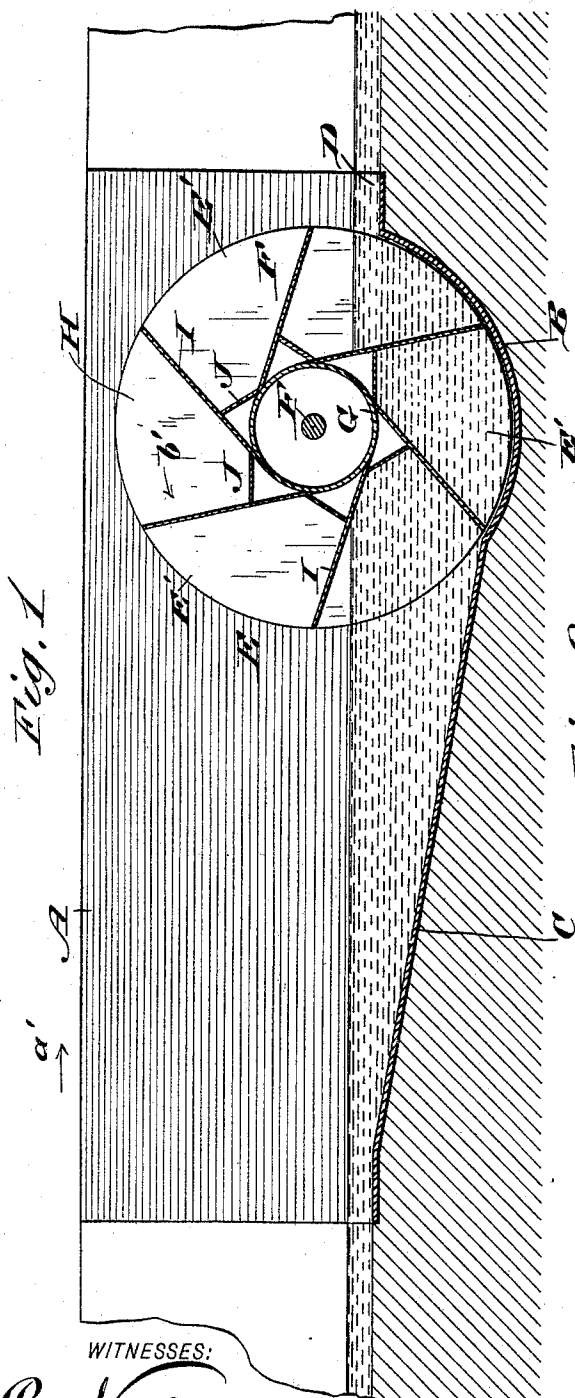


(No Model.)

T. WOOLLENS, Jr.
ROTARY METER FOR IRRIGATION DITCHES.

No. 497,155.

Patented May 9, 1893.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THEODORE WOOLLENS, JR., OF CHEYENNE, WYOMING.

ROTARY METER FOR IRRIGATION-DITCHES.

SPECIFICATION forming part of Letters Patent No. 497,155, dated May 9, 1893.

Application filed July 16, 1892. Serial No. 440,200. (No model.)

To all whom it may concern:

Be it known that I, THEODORE WOOLLENS, Jr., of Cheyenne, in the county of Laramie and State of Wyoming, have invented a new and Improved Rotary Water-Meter, of which the following is a full, clear, and exact description.

The invention relates to rotary water meters, such as shown and described in Letters Patent of the United States No. 473,046, granted to me April 19, 1892.

The object of the invention is to provide a new and improved water meter, which is simple and durable in construction, very effective in operation, more especially designed for use in irrigating ditches and arranged to accurately measure the water flowing through it.

The invention consists of certain parts and details, and combinations of the same, as will be hereinafter described and then pointed out in the claims.

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

Figure 1 is a sectional side elevation of the improvement on the line 1—1 of Fig. 2; and Fig. 2 is a plan view of the same.

The improved rotary water meter is provided with a flume A, set in the ditch or channel through which the water flows, so that the water has to pass through the flume A. The latter is provided near its discharge end with a pit B, from which leads forwardly an inclined bottom C, the top rear end of the said pit connecting with the bottom D of the discharge end.

In the flume A is journaled a horizontally-arranged wheel E, formed with a series of buckets E', adapted to pass through the pit B which latter is segmental to correspond to the periphery of the said wheel, as is plainly shown in Fig. 1. The wheel E is provided with a shaft F, journaled in the sides of the flume A and connected with a suitable counting or recording apparatus of any approved construction, not shown. The wheel E is provided with the circular ends H, fitting closely to the sides of the flume and connected with each other by a tube G, concentric to the shaft F, as plainly shown in Fig. 1. The faces I of the buckets extend tangentially from the

tube G and are connected with each other by a bottom J, which extends horizontally in line with the bottom D of the outlet whenever the respective bucket E' is in its lowermost position, so that the bucket is of a depth corresponding to that of the pit B. Now, it will be seen that when water enters the flume A in the direction of the arrow a', it will flow into the bucket on the side next to the inflow, and the force of the water on the face I of the respective bucket will cause the wheel E to turn in the direction of the arrow b'. When the filled bucket is in its lowermost position, then its bottom J which now forms the top stands in line with the bottom D of the outlet and on the further rotation of the wheel E the outermost side of this bucket will open to the outlet and the water of the bucket will be discharged over the bottom D of the outlet. It is understood that meanwhile the bucket in rear of the filled one is charged in the manner described, so that a continuous rotary motion is given to the wheel E, as long as the water flows into the flume A. It will be seen that by this construction, one of the several buckets will always be in the pit, as the bottoms of the inlet and outlet are on a level with the bottoms of the buckets, as shown and described, and consequently the pit will always be full of water and no bucket can discharge until it is completely filled.

From the foregoing it will be readily understood that a given sized wheel will have a velocity corresponding to the volume of water passing through it. By employing the concentric tube G and setting the faces I of the buckets tangentially thereon, a proper shape is given to each bucket and at the same time, the bottoms J can be inserted so as to stand horizontally when the respective bucket is in a lowermost position in the pit B.

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

1. A rotary water meter comprising a flume formed with an inlet and an outlet arranged on about the same level and a pit extending below the said level and a wheel mounted to turn in the said pit and formed with buckets each having a depth corresponding to that of the pit, the said buckets having tangential faces, substantially as shown and described.

2. A rotary water meter comprising a flume
formed with an inlet and an outlet arranged
on the same level, and a pit extending below
the said level, a wheel mounted to turn in the
5 said pit and formed with buckets, each hav-
ing a depth corresponding to that of the pit,
each bucket being provided with a bottom ex-
tending horizontally in line with the level of
the inlets and outlets at the time the bucket
10 is in its lowermost position in the pit, sub-
stantially as shown and described.

3. A rotary water meter provided with a

wheel comprising circular ends, a tube extend-
ing between the said ends and arranged con-
centric to the axis of the wheel, faces for the 15
buckets arranged tangentially to the said
tube, and a bottom for each bucket extending
between adjacent sides and the circular ends,
substantially as shown and described.

THEODORE WOOLLENS, JR.

Witnesses:

V. H. MILLER,

H. P. BLANCHARD.