

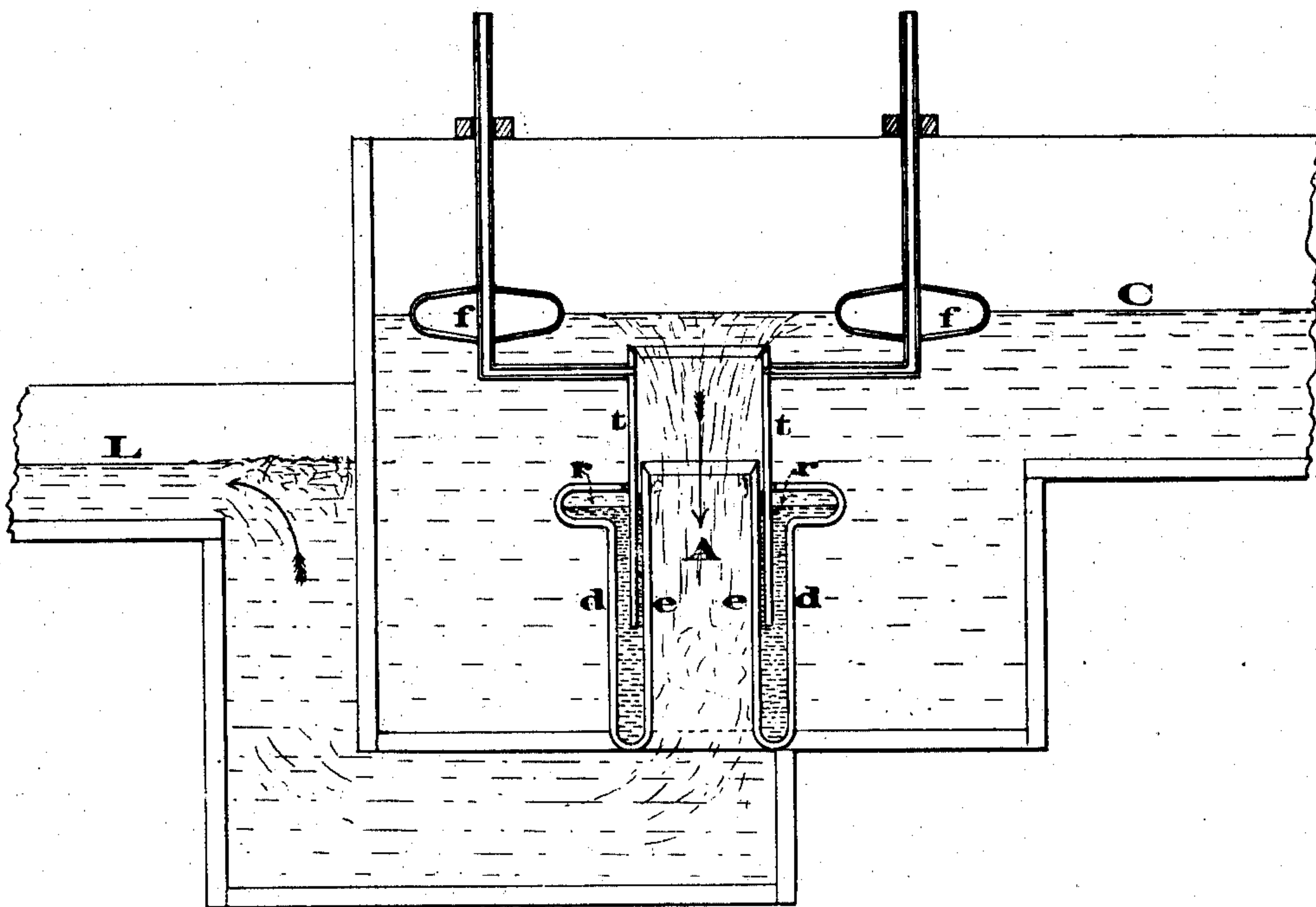
**No. 706,526.**

**Patented Aug. 12, 1902.**

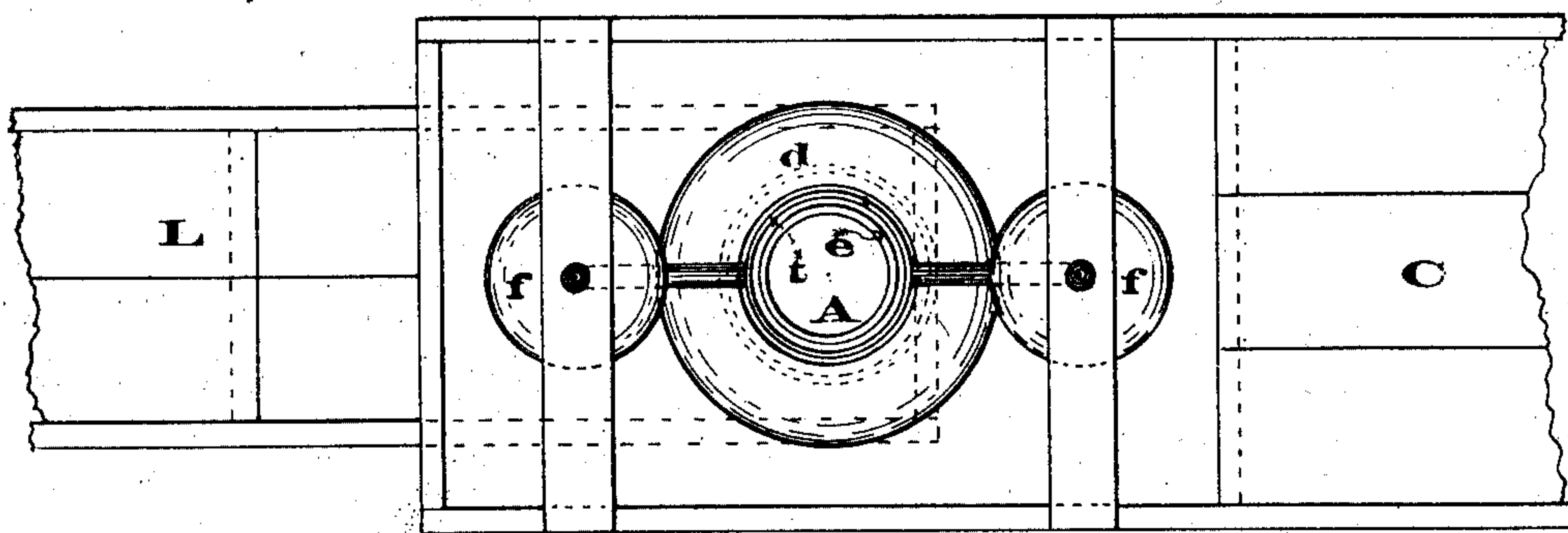
**C. C. CARLISLE.**  
**SELF ADJUSTING WEIR.**

(Application filed Jan. 4, 1902.)

(No Model.)



**Fig. 1.**



**Fig. 2.**

**WITNESSES.**

WITNESSES.  
Frank A. Bond  
C. E. Vait

**INVENTOR.**

INVENTOR.  
*Charles C. Carlisle.*

# UNITED STATES PATENT OFFICE.

CHARLES C. CARLISLE, OF NEAR KAMIAH, IDAHO, ASSIGNOR OF ONE-HALF  
TO FRANK BOND, OF CHEYENNE, WYOMING.

## SELF-ADJUSTING WEIR.

SPECIFICATION forming part of Letters Patent No. 706,526, dated August 12, 1902.

Application filed January 4, 1902. Serial No. 88,447. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. CARLISLE, a citizen of the United States, residing near Kamiah, in the county of Idaho and State of Idaho, have invented a new and useful Water-Tight Joint, which is an improvement on the "Marseilles" module or water-measuring device.

The following is a brief description of the Marseilles module and also a specification of my invention and improvement.

The Marseilles module or water-measuring device consisted of a hollow vertical cylinder, which was kept at a constant distance below the surface of the water by a float. The water passed over the edge of the cylinder and passed out through a channel which connected with the interior of the cylinder. The cylinder passed through a water-tight packing. On account of the friction in the packing making the module insensitive its use was abandoned. This device was used for a time on the Marseilles Canal in France, and similar devices were used in Australia and this country, but none of them have been successful. All of them proved untrustworthy, because of the friction caused by the packing around the tubular weir. This invention totally obviates this difficulty, allowing the tube to move freely without friction and without leakage at the mercurial joint.

My invention relates to the improvement on the above-mentioned Marseilles module or water-measuring device by substituting the new water-tight mercurial joint for the water-tight packing and tubular supports to the floats. These float-supports being hollow admit air to the tubular weir below its crest, thus removing all suction from and preventing the tubular weir from acting as an inverted siphon, thus insuring uniform discharge. The module as improved by my invention is shown in the accompanying drawings.

Figure 1 is a vertical section of the entire module. Fig. 2 is a top view or plan of the entire module.

This module as improved by my invention is described as follows:

The tube *t* telescopes between two vertical tubes *d* and *e*, which are fastened together, forming a chamber between them. This space is wider than the thickness of the tube *t* and is nearly full of mercury. The top of the outside tube *d* is flared so as to form a reservoir *r*, in which the displaced mercury is stored when the tube *t* is forced into the chamber between *d* and *e*. This mercurial joint is water-tight and practically frictionless. The floats *f* and *f* are adjustable, so that the top of the tube *t* may be made to stand at any desired depth below the surface of the water.

C is a lateral connecting with the main canal.

L is the consumer's ditch.

The water flows from the lateral C through the tubes, passing out at A into the ditch L, as is shown in Fig. 1. As the tube *t* is operated by floats, the head of water causing the flow is constant. Hence the discharge into the ditch L is continually the same regardless of the fluctuation of head in the main canal.

I am aware that prior to my invention modules or water-measuring devices were made to be operated by floats. I therefore do not claim the entire module broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a float, a movable inlet-conduit suspended from said float, a fixed outlet-conduit leading to service telescoping freely within the movable conduit having a gland or pocket around the extremities of both conduits and a liquid packing of greater specific gravity than water in said pocket.

2. The combination with an automatically-adjustable inlet-conduit and a fixed outlet-conduit having a liquid joint between them of an air-duct leading below the crest of the weir into said inlet-conduit substantially as described.

CHARLES C. CARLISLE.

Witnesses:

FRANK BOND,  
C. E. TATT.