R. V. MEIKLE.

AUTOMATIC GATE FOR IRRIGATION CANALS.

APPLICATION FILED SEPT. 23, 1913.

1,130,097.

Patented Mar. 2, 1915.

2 SHEETS—SHEET 1

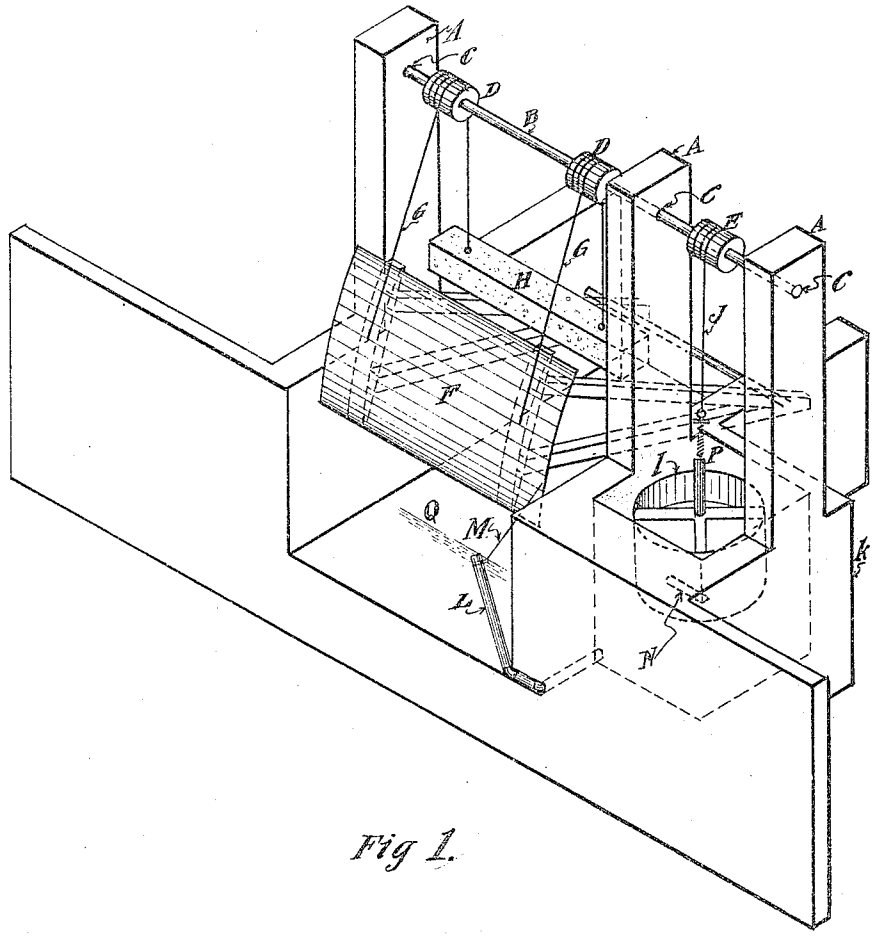


Fig 1.

WITNESSES:

M. W. Sahlberg.

P. E. Neef

Roy V. Meikle INVENTOR.

R. V. MEIKLE.

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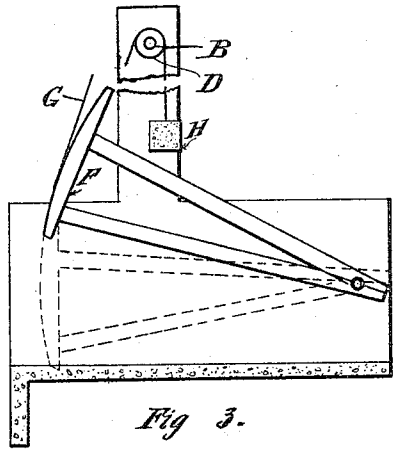


Fig 3.

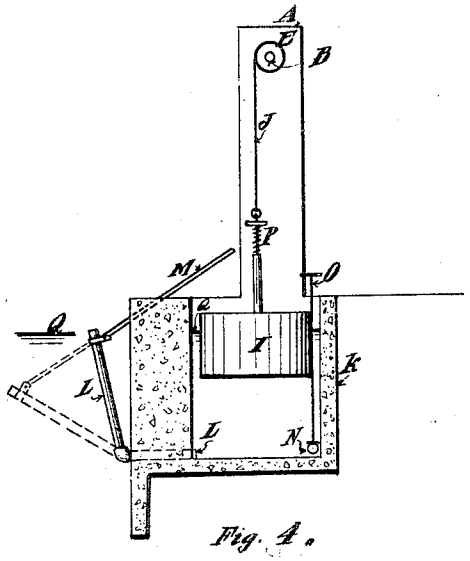


Fig. 4.

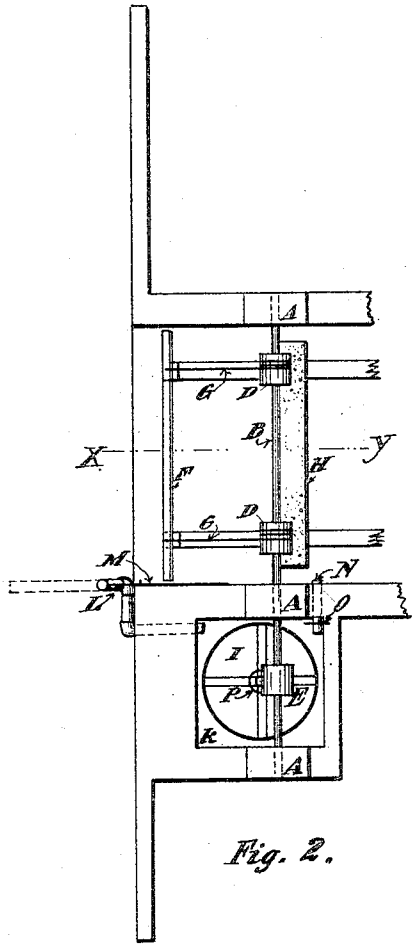


Fig. 2.

WITNESSES:

M. L. Sahlberg.

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UNITED STATES PATENT OFFICE.

ROY V. MEIKLE, OF TURLOCK, CALIFORNIA.

AUTOMATIC GATE FOR IRRIGATION-CANALS.

1,130,097. Specification of Letters Patent. Patented Mar. 2, 1915.

Application filed September 23, 1913. Serial No. 791,316.

To all whom it may concern:

Be it known that I, ROY V. MEIKLE, a citizen of the United States, residing at Turlock, in the county of Stanislaus and State of California, have invented a new and useful Automatic Gate for Irrigation-Canals.

My invention relates to improvements in automatic gates for irrigation canals, the object of my improvement being to hold the water surface in the canal above the gate at a desired constant elevation when water is being diverted from the said canal by smaller canals or laterals. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1— an isometric drawing of automatic gate for irrigation canal in operation. Fig. 2— a plan showing a radial canal gate and counter weights attached to axle. Fig. 3— a section X—Y Fig. 2 showing standards, axle and counter balanced gate. Fig. 4— a section of well showing the inlet and outlet pipes and the floating counter weight attached to drum and axle.

Similar letters refer to similar parts throughout the several views.

Detailed description.—The standards A—A support an axle B which turns freely in bearings C—C—C. To this axle are rigidly attached the drums or rollers D. D. E. The wire ropes G are coiled around the drums D, one end of each being attached to the radial gate F and the other end to the counter weight H. The counter weight H is heavier than the gate F. The floating counter weight or bucket I is connected by the wire rope J to the drum E and hangs in the well K. By means of the turn buckle P the elevation of the floating counterweights I is adjusted to the elevation of the gate F. Water is admitted to the well K through the inlet pipe L which is set at the required elevation by the regulating rod M. An outlet pipe N— having a valve —O— runs continually. The valve —O— is for the purpose of regulating a small continuous flow from the outlet pipe N— as may be required. The counter weight H is heavier than the gate F. The gate F plus the counter weight I is heavier than the counter weight H.

It is desired to hold the water surface elevation in the canal constant at Q. The inlet pipe L is set to admit water at that elevation. If the water surface in the canal rises above Q, water is admitted by the pipe L to the well K faster than the outlet pipe N discharges it. The floating counter weight N is lifted by water rising in the well K and the tension in the wire rope J is released, allowing the counterweight H to lift the gate F by turning the drum D and axle B. Raising the gate F lowers the water surface to Q or lower. If the water surface falls below Q no water is admitted through the inlet pipe L and the continuous flow of the outlet pipe lowers the water surface in the well K increasing the pull of the floating counterweight I on the wire rope J until, with the weight of the gate F it is sufficient to overcome the counterweight H, turn the drum D and axle B, and lower the gate F sufficient to bring the water surface back to Q.

I claim,

1. In a device for maintaining the water in irrigation canals at a constant level above the gate leading to the laterals, the combination with a gate for controlling the supply of water to the laterals, a counterweight operatively connected with the gate, a floating counterweight acting in opposition to said first counterweight, a well in which said floating counterweight works, adjustable means for supplying water from the canal to the well whereby water may be delivered to the well at predetermined levels in the canal, and a discharge from the well of less capacity than the supply, substantially as described.

2. In a device for maintaining water in irrigation canals at a constant level, the combination with a pivoted gate, standards or supports, an axle journaled in said standards, a freely suspended counterweight, flexible connections between the counterweight and gate, passing around said axle, said counterweight overbalancing the gate, a floating counterweight, suspended from said axle, a well in which said float works, an inlet pipe leading from the canal to the well, for supplying water thereto, and a discharge pipe leading from said well.

3. In a device for maintaining water in irrigation canals at a constant level, the combination with a pivoted gate, standards or supports, an axle journaled in said standards, a freely suspended counterweight, flexible connections between the counterweight and gate, passing around said axle, said counterweight overbalancing the gate,

a floating counterweight suspending from said axle, a well in which said float works, an inlet pipe leading from the canal to the well for supplying water thereto said pipe being adjustable to deliver water to the well at predetermined levels in the canal and a discharge pipe leading from said well.

4. In a device for maintaining the water in irrigation canals, at a constant level, the combination with a pivoted gate for controlling the flow of water in said well, a shaft, standards for supporting said shaft, a freely suspended counterweight, flexible connections between said gate and counterweight passing about said shaft, a float, suspended from said shaft, a well in which said float operates, an inlet and discharge for said well and means for adjusting the elevation of said float.

R. V. MEIKLE.

Witnesses:
M. W. SAHLBERG,
L. E. MEEL.