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Humpherys, Allan S. and James A. Bondurant. 1967.

Automatic Irrigation Gate. Patent No. 3,300,985.

This application is a division of Serial No. 199,546, filed June 1, 1962, now Patent No. 3,217,497.

This invention relates to an automatic irrigation gate. More particularly, it relates to a self-operating mechanical check gate for controlling irrigation in a farm head ditch or lateral.

Much labor is required to irrigate cropland with conventional methods and equipment. The scarcity and high cost of good farm labor generally results in inefficient irrigation with the result that the crops either receive insufficient water or that too much water is used, resulting in a waste of that sometimes rare commodity.

Accordingly, one object of this invention is to provide means for automatically opening a gate in an irrigation ditch. Another object is to provide means for so opening the gate at a predetermined time. Still another object is to provide means for automatically reclosing the gate and resetting the release mechanism when the water has run out of the ditch. These and other objects that will be obvious to those skilled in the art are achieved by means of the invention described below.

In general, the above objects are achieved by providing a swinging gate across an irrigation ditch rotatable about a horizontal axis. A locking mechanism keeps the gate normally closed when not in use until automatically released as described below. When in use, the gate acts as an automatic check or dam to raise the water level in the ditch for distribution to the field through outlets in the ditch bank upstream from the gate. When it is desired to irrigate the field below the dam, the gate release mechanism is automatically actuated and water pressure behind the gate forces it open and permits water to flow down to the next such gate.

In accordance with the invention, several alternate means are provided for operating the release mechanism. In a preferred form, release is achieved by means of a water-clock tripping mechanism.