No. 850,441. PATENTED APR. 16, 1907.

T. J. McGINNIS.

AUTOMATIC GATE OPENER.

APPLICATION FILED AUG. 26, 1904. RENEWED OCT. 18, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

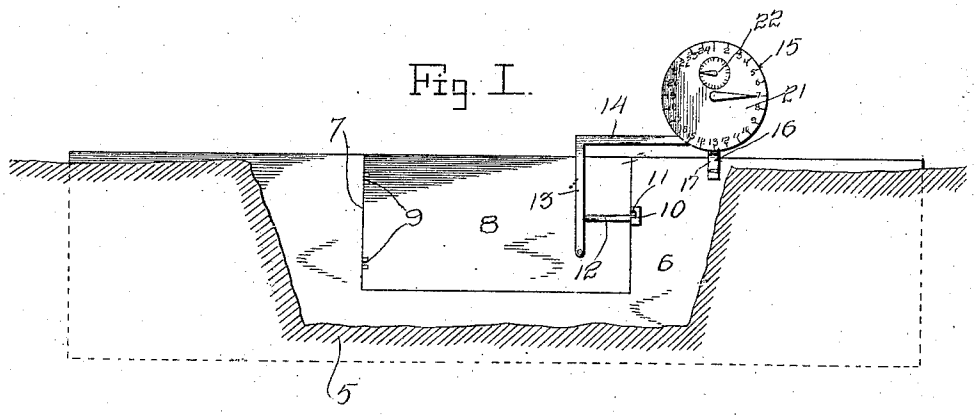
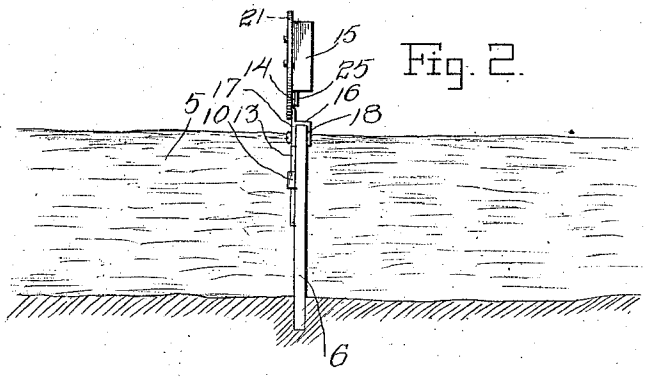


Fig. 2.



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2 SHEETS—SHEET 2.

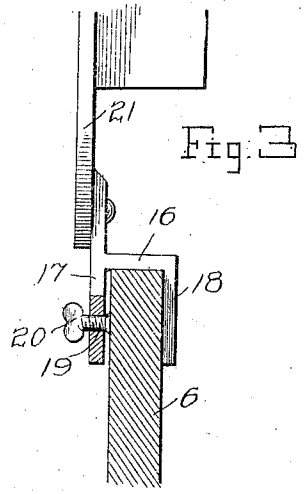


Fig. 3.

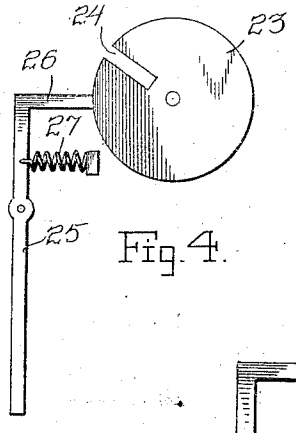
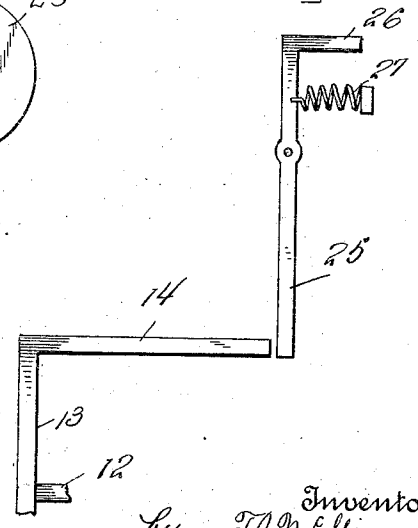


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

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AUTOMATIC GATE-OPENER.

No. 850,441. Specification of Letters Patent. Patented April 16, 1907.

Application filed August 26, 1904. Renewed October 13, 1906. Serial No. 339,576.

To all whom it may concern:

Be it known that I, THOMAS J. McGINNIS, a citizen of the United States, residing at Boise city, in the county of Ada, State of Idaho, have invented certain new and useful Improvements in Automatic Gate-Openers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the gates of irrigating-ditches, and more particularly to attachments therefor, and has for its object to provide a device of this nature which may be set to automatically disengage the fastening means of a gate at any predetermined moment.

Other objects and advantages will be apparent from the following description, and it will be understood that modifications of the specific construction shown may be made and suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a transverse section of a ditch, showing a gate provided with the present invention. Fig. 2 is a view of the gate looking at right angles to Fig. 1. Fig. 3 is an enlarged detail view of a portion of the operating mechanism. Fig. 4 is a detail view of the lever-and-disk mechanism. Fig. 5 is an elevational view showing the arrangement of the levers.

Referring now to the drawings, there is shown an irrigating-ditch 5, provided with a transversely-extending partition 6, having an opening 7 therethrough, in which there is mounted a gate 8, swinging upon hinges 9 into and out of position to close and open the opening. At the opposite side of the opening 7 from the hinges there is a latch-block 10, having an opening 11 therein for the reception of the free end of a rod 12, which is secured to a vertically-extending lever 13, pivoted at its lower end to the gate, the rod and lever thus forming a latch movable upon the pivot-point of the lever to bring the free end of the rod into and out of engagement with the opening 11 of the latch-block 10.

The upper end of the lever 13 extends above the upper end of the gate and has extending laterally therefrom an arm 14 for a purpose to be presently described.

A spring-operated mechanism 15 is provided and has secured thereto a clamp 16, by means of which it may be secured to the partition 6, and this clamp consists of two depending spaced members 17 and 18, the former having a threaded perforation 19 therethrough, in which is engaged a thumb-bolt 20, arranged for operation to clamp the partition 6, it being understood that the members 17 and 18 are disposed one at either side of the partition.

The spring-operated mechanism 15 is of the form usually found in alarm-clocks, the only difference being that the dial 21 is provided with numerals from "1" to "24," as illustrated, and the minute-hand being omitted. The setting-dial 22 for the alarm is also provided with twenty-four numerals, and it will thus be apparent that the mechanism may be set to release what may be termed its "alarm" mechanism at any hour of the day.

In the place of the usual wheel which operates the clapper of alarm-clock as ordinarily constructed the present mechanism is provided with a disk 23, having a single notch 24, which extends radially of the disk. Pivoted in the casing of the mechanism 15 is a lever 25, which projects outwardly of the casing at one end and has its inner end turned at right angles, as shown at 26, this lever being held with its angular end in engagement with the periphery of the disk 23 by means of a spring 27, and the angular end 26 of the lever is of a size to enter the notch 24 when the disk is revolved to bring this notch into position to receive the end of the lever.

The mechanism 15 is so disposed that when the angular end 26 moves into the notch 24 under the action of the spring 27 the free end of the lever 25 will come into engagement with the end of the arm 14 and will move the latch into its inoperative position, when the force of water against the gate will cause the latter to fly open, thus permitting the water to flow to the ground to be irrigated. It will thus be apparent that the mechanism 15 may be set to release the water at any hour, so that the gate may be automatically opened at night or at any other time when it is inconvenient to perform the operation manually.

By reason of the fact that the mechanism

15 may be detached from the partition 6 it may be used in connection with a number of gates interchangeably.

What is claimed is—

The combination with a closure for irrigating-ditches consisting of a partition 6 having an opening therein and a gate for the opening hinged for movement into and out of operative position, of a lever pivoted to the gate at the opposite side thereof from the water-supply of the ditch, said lever extending above the gate and having a laterally-extending arm at its upper end and extending over the partition beyond the gate, a latch-block secured to the partition, a rod secured to the lever and engaged in the latch-block, said rod and block being arranged for coöperation to hold the gate in closed position, said lever being movable upon its pivot to bring the rod out of coöperative relation to the block, a spring-operated mechanism removably engaged with the partition, said spring-operated mechanism including a lever pivoted for movement to move the first-named lever to bring the rod out of the latch-block, and timing mechanism for the spring-operated mechanism, said timing mechanism being arranged for operation to permit movement of the second-named lever at any predetermined time.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS J. McGINNIS.

Witnesses:

T. D. CAHOBAN,

E. C. COOK.