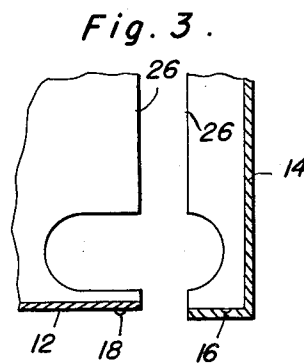
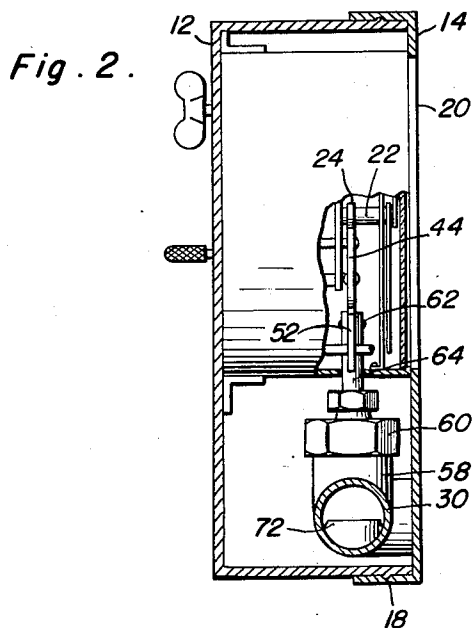
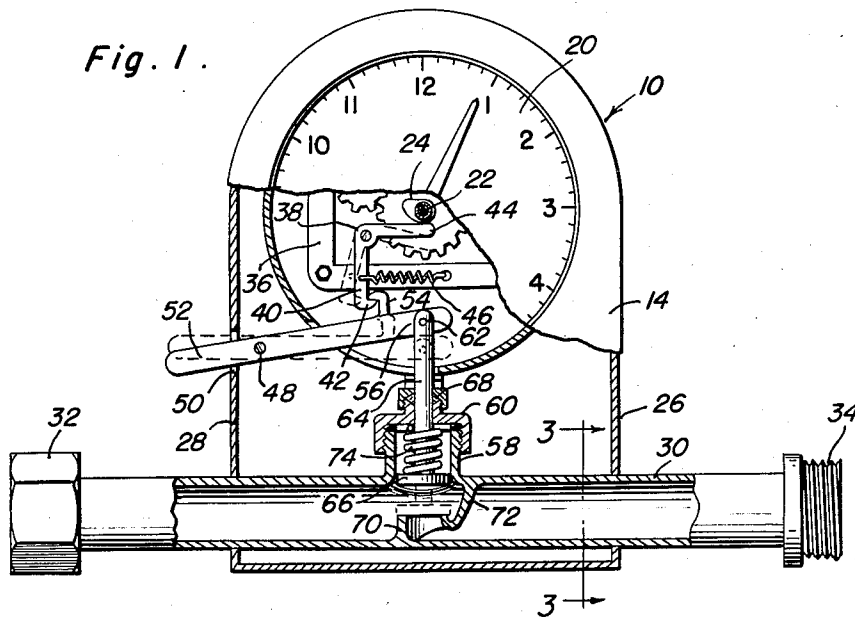


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G. K. MARTIN ET AL
AUTOMATIC WATER SHUTOFF DEVICE

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George K. Martin
Mary M. Martin
INVENTORS.

BY *Oliver A. O'Brien*
and *Harvey R. Jackson*
Attorneys

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AUTOMATIC WATER SHUTOFF DEVICE

George K. Martin and Mary M. Martin, San Marcos, Tex., assignors of one-fourth to Thomas A. Buckner, Jr., San Marcos, Tex.

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3 Claims. (Cl. 161-7)

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This invention relates to an automatic water shut-off device to be employed especially in connection with a water sprinkler unit and the like.

The primary object of this invention is to provide a device which will automatically shut off the water being delivered to any desired place after a desired amount of water has been employed thus obviating the necessity of manually disconnecting the supply of water from the water delivery conduit.

Yet another object of this invention is to provide an automatic water shut-off device for attachment to a water supply which includes a conventional alarm clock engageably connected to a valve means for shutting off the water supply after a predetermined time has elapsed. The length of time water is to be delivered to any desired place can be set in the usual manner by means of the conventional alarm clock, and after this time has elapsed, the water supply will be automatically shut off. The shut-off device can, of course, be reset any number of times for any desired length of time required to deliver a desired amount of water.

These, together with various ancillary objects and features of the invention which will later become apparent as the following description proceeds, are attained by the device, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is a longitudinal sectional view of the device of the instant invention in association with a conventional alarm clock, some parts being shown in elevation and others being broken away;

Figure 2 is a transverse sectional view of the device shown in Figure 1, some parts being shown in elevation and other parts being broken away; and

Figure 3 is another transverse sectional view taken substantially in a plane of section line 3-3 of Figure 1.

Specific reference is now made to the drawings. In the several views in the accompanying drawings and in the following specification reference characters indicate corresponding elements throughout.

Generally indicated at 10 is a conventional alarm clock having a U-shaped housing 12 which carries a face plate 14, which face plate is also U-shaped as seen in Figure 2 and contains recesses 16 which engage a ball member 18 for detachably retaining the face plate on the housing. The face plate 14 is additionally provided with

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the conventional dial 20. The hand shaft 22 is further provided with a cam 24 well known in the clock art.

The side members 26 and 28 are additionally provided with transversely extending slots for frictionally retaining a water retaining conduit 30 which extends transversely of the bottom of the clock and which is further provided, if preferred, with a male connection 32 and a female connection 34, either connection to be attached to a hose leading to a source of water (not shown).

Pivoted to a frame member 36 of the clock is a bell crank 38, the lower leg 40 of which is provided with a hook element 42. The upper leg 44 of the bell crank is positioned adjacent the cam 24 and is normally retained against this cam by means of a spring 46 which is terminally secured to the frame member 36 and the lower leg 40 intermediate the ends thereof. Pivoted to the housing of the clock as at 48 and extending through a suitable slot 50 in the side wall 28 is a lever bar 52, one end of which is provided with an upstanding hooked lug 54 for engageably receiving the hook member 42. Adjacent the lug 54, the lever bar 52 is additionally provided with a longitudinally extending slot 56. Communicating with the water retaining conduit 30 is a branch conduit 58 which is screw threaded at its upper end to retain thereon an internally threaded apertured nut 60.

Slidably connected to the lever bar 52 as at 62 is a valve stem 64 which extends through the branch conduit 58 and carries at its bottom end a valve 66. A suitable packing gland 68 is provided about the valve stem to prevent leakage of water thereby.

The water retaining conduit 30 is additionally provided with internally disposed depending lugs 70 and 72 forming in combination a valve seat immediately disposed beneath the valve 66. Interposed between the nut 60 and the valve 66 about the valve stem 64 is a spring 74 which normally urges the valve 66 toward the valve seat 70-72 to shut off the water flowing through the conduit 30.

In practical operation, the alarm clock is set so that water flowing through the conduit 30 will be supplied to a sprinkler for a predetermined length of time. After the time has elapsed, the cam 24 revolving on the hand shaft 22 will depress the upper leg 44 of the bell crank pivoting the entire bell crank upwardly. When this occurs, the hook member 42 releases the hooked lug 54, and the spring 74 urges the valve 66 towards

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the seat 70—72 thus closing the valve and shutting off the water supply.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having thus described the invention, what is claimed as new is:

1. In combination with an alarm clock having a cam on the hand shaft; an automatic water shut-off device comprising, a bell crank pivoted at its corner to the clock housing, resilient means normally urging one leg of said bell crank against the cam, a water retaining conduit extending through the clock housing, valve means in said conduit, and lever-actuated means interconnecting the other leg of said bell crank and said valve means for shutting off the water in said conduit in response to a predetermined time-set, the other leg of said bell crank including a terminal hook member and said lever-actuated means in-

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cludes a bar pivoted to the housing intermediate its ends, said bar having an upstanding hooked lug for engaging said hook member.

2. The combination of claim 1 wherein said valve means includes a branch conduit having an apertured cover, a valve stem slidably secured at its upper end to said bar and extending through said branch conduit, a valve carried at the lower end of said valve stem, a valve seat in said conduit immediately below said valve, and a spring about said valve stem interposed between said cover and said valve for normally urging said valve towards said valve seat.

3. The combination of claim 2 wherein said resilient means includes a spring terminally secured to a frame member of said clock and the other leg of said bell crank.

GEORGE K. MARTIN.
MARY M. MARTIN.

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