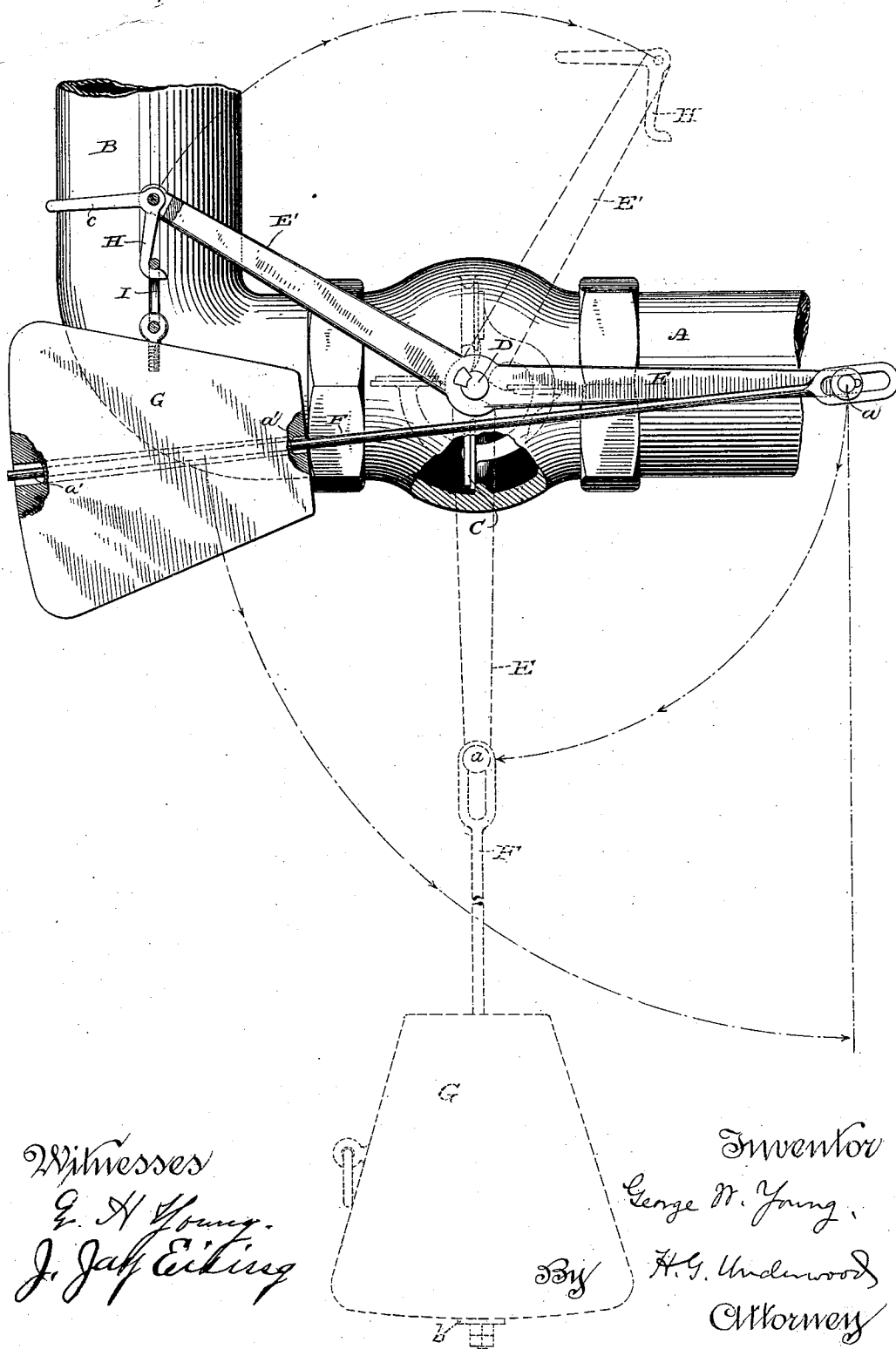


(No Model.)

G. W. YOUNG.
AUTOMATIC VALVE.

No. 469,768.

Patented Mar. 1, 1892.



Witnesses
G. W. Young.
J. J. Eiting

Inventor
George W. Young.
By H. G. Underwood
Attorney

UNITED STATES PATENT OFFICE.

GEORGE W. YOUNG, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF
TO GEORGE KNOWLES, JR., OF SAME PLACE.

AUTOMATIC VALVE.

SPECIFICATION forming part of Letters Patent No. 469,768, dated March 1, 1892.

Application filed April 10, 1890. Serial No. 347,323. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. YOUNG, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Valve-Controlling Mechanism; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to a valve-controlling mechanism particularly adapted for automatic sprinkler systems; and it consists in certain peculiarities of construction and combination of parts to be hereinafter described with reference to the accompanying drawings, and subsequently claimed.

The drawings represents an application of my invention in connection with a service-pipe valve, the normal position of the controlling mechanism for the valve being illustrated in full lines and the abnormal position in dotted lines.

A represents a service-pipe connected to a riser B by means of a coupling that constitutes the casing of a valve C, the stem of the latter being extended through said casing and keyed to a lever that extends in opposite directions from said stem in the form of arms E E'. The arm E is provided at its outer end with a pin *a*, that engages the slotted end of a rod F and forms a pivot for the latter. The rod F extends through a central aperture *a'* in a weight G, and the movement of the weight is limited by a stop *b*, the latter being shown by dotted lines. When the parts are in their normal position, the weight G is suspended from the outer end of the arm E', so as to be readily detached therefrom, the means shown being a hook H, pivoted to said lever-arm to engage a ring I on said weight and provided with a right-angle extension *c*, against which the releasing power is to be exerted. The parts being in the position shown and described, there is no strain on the lever-arm E, and the valve is held closed; but in case the extension *c* of the hook H is actuated said hook moves on its pivot to come out of engagement with the ring I on the weight G, and the latter and rod F swing

down on the pin *a*, that projects from the lever-arm E. The rod F is preferably of such length as to permit of its swinging down to a vertical position prior to the time the weight G reaches the limit of its movement on the rod, and it will be observed that in this descent said rod describes an arc of a circle struck from the center of the pin *a* on the arm E and said weight has a radial movement with relation to the same center. At the time the arm E and rod F assume a right angle to each other the weight G will not have completed its radial movement on the rod, but will drop with force against the stop *b*, and thus cause said rod to impart a sudden jerk on said arm to start the valve from its seat. The weight-arm E, rod F, and weight G now move down together until all assume the vertical position shown by dotted lines and thus open the valve to the greatest extent.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a valve, a lever connected thereto, a weight secured to the lever on one side of the latter's fulcrum, a hanger for the weight, pivoted to the valve-lever on the other side of said fulcrum, and a lever extended from the hanger, substantially as set forth.

2. The combination of a valve, a lever connected thereto, a rod having a pivot-connection with the lever on one side of the latter's fulcrum and provided with a stop, a sliding weight on the rod above the stop, and a trip-catch arranged to detachably connect the weight and that portion of the lever on the other side of said fulcrum, substantially as set forth.

3. The combination of a valve, a lever connected thereto, a weight secured to the lever on one side of the latter's fulcrum, and a trip-catch arranged to oppose a releasing power and detachably connect the weight and that portion of the lever on the other side of said fulcrum, substantially as set forth.

4. The combination of a valve, seating and unseating arms extended from the valve-

stem, a weight, a device permanently connecting the weight and unseating-arm of the valve, and a trip-catch arranged to oppose a releasing power and detachably connect said
5 weight and seating-arm of said valve, substantially as set forth.

In testimony that I claim the foregoing I

have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

GEORGE W. YOUNG.

Witnesses:

E. H. YOUNG,

N. E. OLIPHANT.