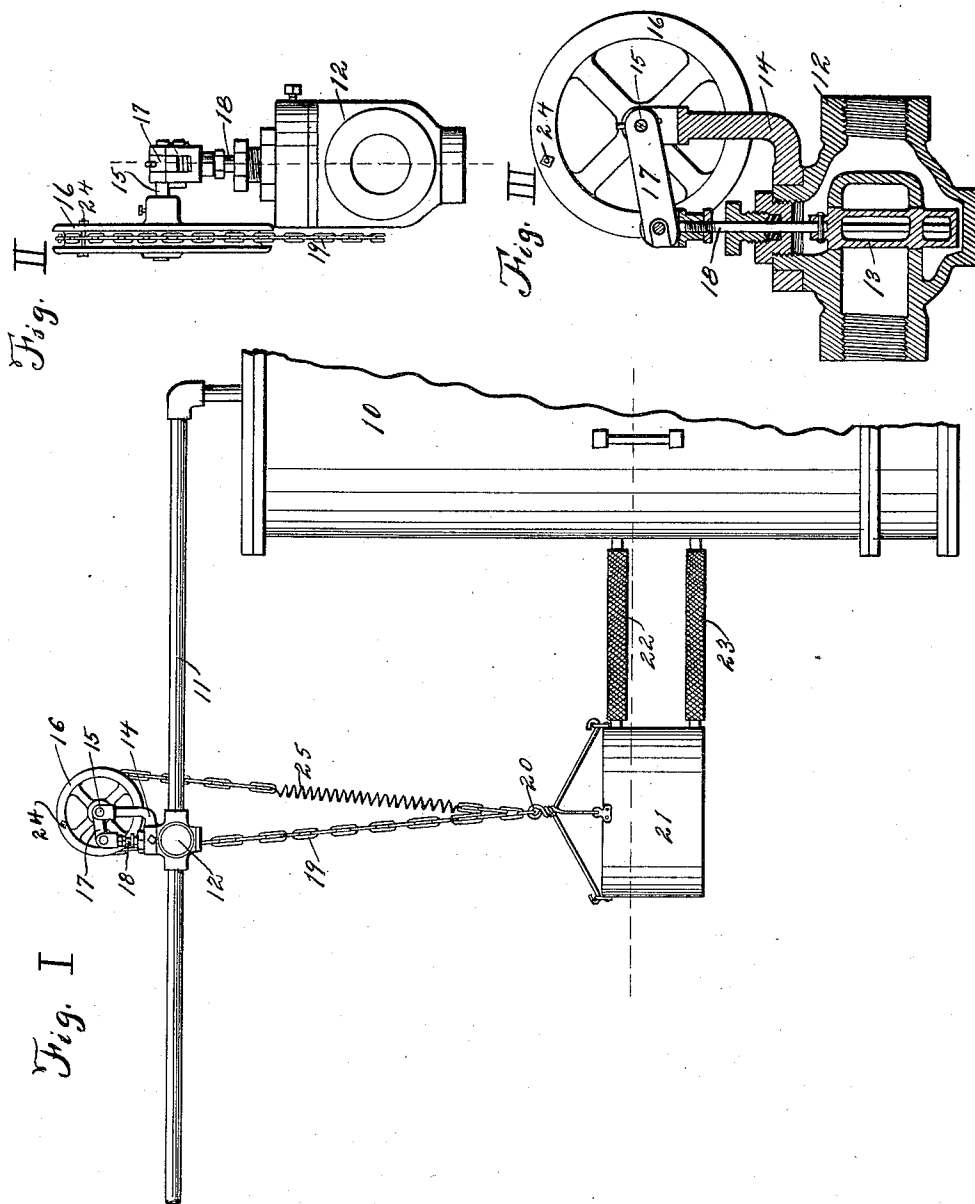


G. B. NORTON.
 AUTOMATIC WATER REGULATOR FOR HEATERS.
 APPLICATION FILED DEC. 12, 1910.

1,046,215.

Patented Dec. 3, 1912.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE B. NORTON, OF OSCEOLA, IOWA.

AUTOMATIC WATER-REGULATOR FOR HEATERS.

1,046,215.

Specification of Letters Patent.

Patented Dec. 3, 1912.

Application filed December 12, 1910. Serial No. 596,951.

To all whom it may concern:

Be it known that I, GEORGE B. NORTON, a citizen of the United States, residing in Osceola, county of Clark, and State of Iowa, have invented a new and useful Improvement in Automatic Water-Regulators for Heaters, of which the following is a specification.

The object of my invention is to provide an automatic water regulator for heaters which will be simple, strong, durable and inexpensive in construction and which will automatically close the valve of the intake pipe when a certain amount of water has been admitted and will also automatically open the said valve when the volume of water has been reduced below a certain amount.

My invention consists of certain details of construction hereinafter set forth, pointed out in my claims and illustrated in the accompanying drawings in which—

Figure I shows a portion of a heater provided with its intake pipe and having my device secured thereto; Fig. II shows an enlarged detail view of the valve with a portion of the operating attachment secured thereto; and Fig. III shows a sectional view of the valve I employ.

Referring to the accompanying drawings the numeral 10 is used to indicate the reservoir of a water heater provided with an intake pipe 11 which is controlled by a throttle valve comprising a valve casing 12 and a valve 13. Secured to the valve casing is an upwardly and outwardly extending bracket 14 on which is mounted, for rotary movement, a shaft 15. Secured to one end of said shaft is a grooved wheel 16 and to the other end of said shaft is secured an arm 17, the outer end of which is loosely secured to the projecting head of a rod 18 which extends downwardly through an orifice in the valve casing to engagement with the valve 13.

The numeral 19 indicates a chain, or belt, which passes over the wheel 16, its two ends being connected and supporting, at a common mounting 20, a water receptacle 21, said water receptacle being itself connected to the water heater by means of the flexible tubes 22 and 23, in such a manner that water admitted to the reservoir 10 will flow into the receptacle 21 when a certain volume has been admitted and thereafter the water will rise in the receptacle as fast as it rises in the

reservoir. The chain, or belt, 19 is rigidly affixed to the wheel 16 at a point removed from the vertical central line of the wheel and on the side in closest proximity to the valve rod 18, as shown at 24, and the other side of the chain (or that which is farthest removed from the valve rod) is broken and a coil spring 25 mounted between the broken segments, as clearly shown in the drawings.

In practical operation the valve 13 is normally open and when a certain amount of water has been admitted to the reservoir it begins to enter the receptacle 21 and continues to do so until a sufficient amount has been admitted to constitute a weight heavy enough to offset the tension of the coil spring 25 and pull the other side of the chain, or belt, 19 downward thereby moving the arm 17 downward and closing the valve 13, thus cutting off the flow of water to the reservoir. It is obvious that as the water in the reservoir is used a proportionate amount recedes from the receptacle thus reducing the weight thereof and when the weight has been sufficiently reduced the tension of the coil spring 25 automatically restores the parts to their normal positions and opens the valve thus again causing an inflow of water to the reservoir.

It is obvious that instead of using a wheel 16, as I have shown, a lever or cross arm may be employed and also some flexible material may be substituted for the coil spring I have chosen to illustrate, but this would in no way change my invention the principal feature of which is to cause the varying weight of a water receptacle whose source of supply is from the main reservoir, and is regulated by the amount of water in said reservoir, to open and close the intake valve to the main reservoir.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is:

1. In combination with a tank, and a water receptacle movably connected thereto, valved means for controlling the supply of water to the tank, an element connected to said valve to operate the same, a connection between one side of said element and said receptacle, and a spring connected at one end with the opposite side of said element and having its opposite end connected with said receptacle, said spring when the receptacle is weighted with water being extended,

and upon the water leaving said receptacle contracting to operate said element and open the valve.

2. In combination with a tank, and a water receptacle movably connected thereto, 5
valved means for controlling the supply of water to the tank, means for operating said valve including a wheel, a chain connected at one end to said receptacle and having its 10
opposite end extending on one side of the wheel and over the top of the wheel and

down on the opposite side thereof, said chain being rigidly connected to the wheel at the top of the latter, and a coil spring connected at one end to the last named end of the chain and at its other end with the receptacle.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."