No. 729,116. PATENTED MAY 26, 1903.

R. P. BARNSTEAD.

AUTOMATIC CUT-OFF.

APPLICATION FILED SEPT. 11, 1902.

NO MODEL.

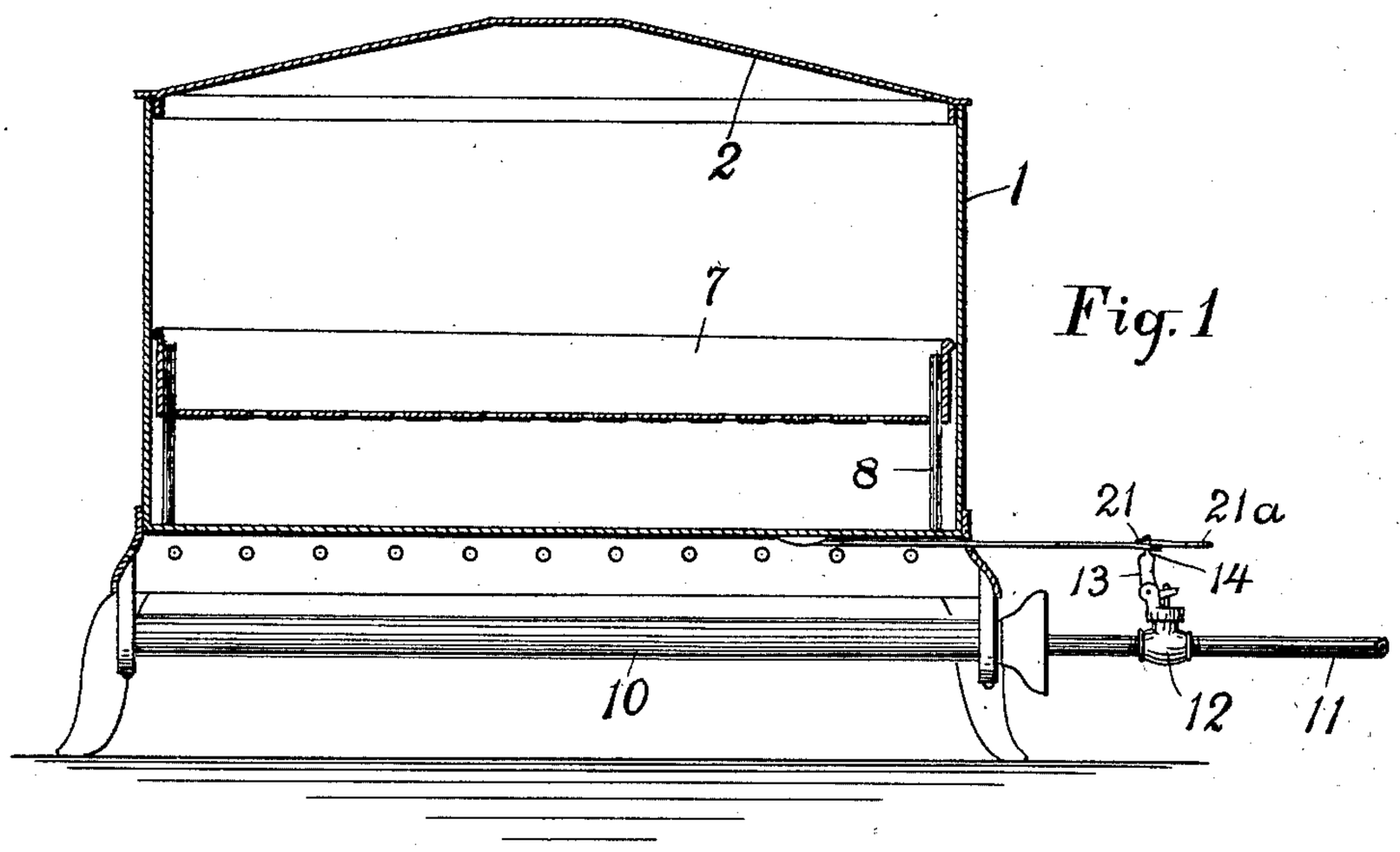

Fig. 1

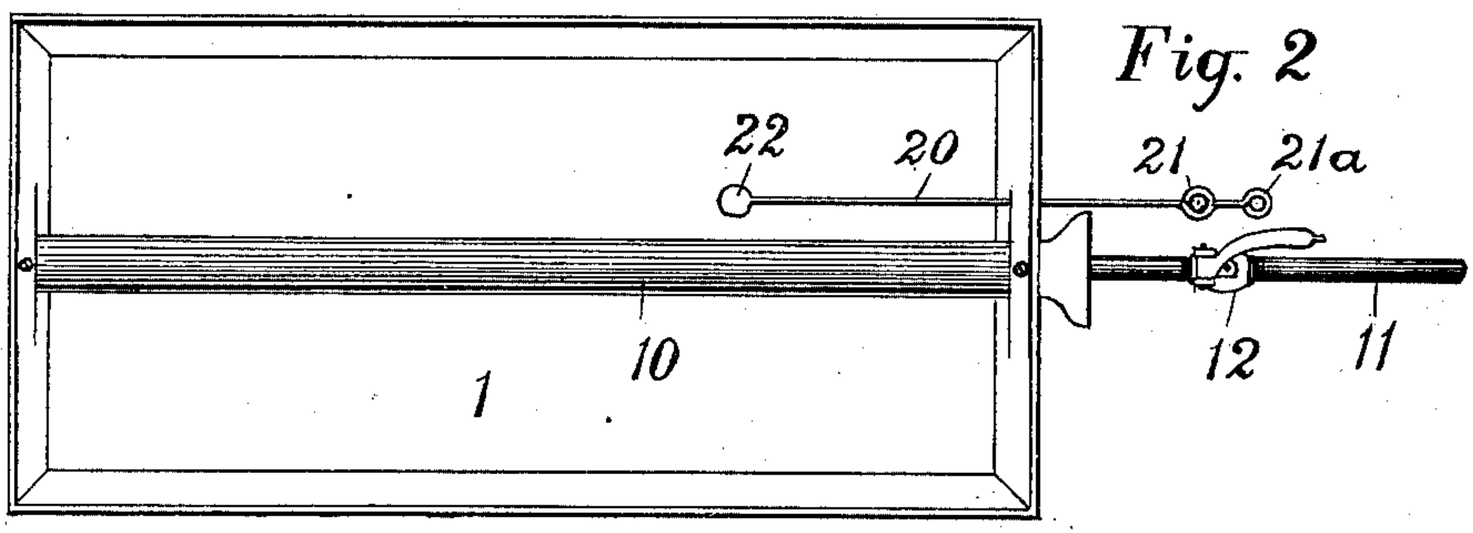

Fig. 2

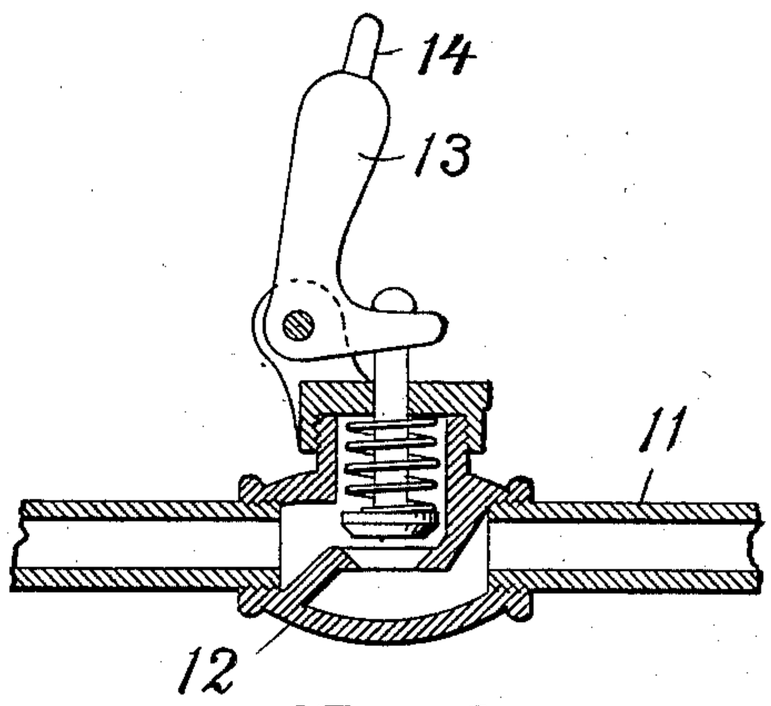

Fig. 3

Witnesses;

E. R. Scott.

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By A. B. Maxham,

His Attorney.

No. 729,116. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

ROBERT P. BARNSTEAD, OF BOSTON, MASSACHUSETTS.

AUTOMATIC CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 729,116, dated May 26, 1903.

Application filed September 11, 1902. Serial No. 122,979. (No model.)

To all whom it may concern:

Be it known that I, ROBERT P. BARNSTEAD, a citizen of the United States, residing in Ashmont district, in the city of Boston, county of Suffolk, State of Massachusetts, have invented certain new and useful Improvements in Automatic Cut-Offs, of which the following is a full, clear, and exact description.

The object of my invention is the construction of an improved device by means of which the fuel-supply to a burner will be automatically shut off the instant the article being heated shall reach a certain specified temperature, and while the device has numerous applications I have specifically designed it for use in connection with sterilizers, which are exceedingly liable to become overheated and seriously injured by the contained water boiling away. By means of my device as soon as the water has all been evaporated and the bottom of the sterilizer become heated to a slight degree above 100° centigrade a drop of solder melts and releases a lock, thereby permitting a spring-valve to close the fuel-pipe.

Referring to the drawings forming part of this specification, Figure 1 is a side sectional elevation of a sterilizer having my invention applied thereto. Fig. 2 is a view of the same from beneath, and Fig. 3 is a sectional detail view of the spring-valve employed.

The reference-numeral 1 designates the sterilizer, having a usual cover 2 and my perforated tray supported on legs 8.

10 is the burner, located beneath the sterilizer and provided with gas through the pipe 11. The valve 12 is one which is self-closing and of the usual construction, as shown in Fig. 3, the only novelty in the valve consisting of the spur or finger 14 at the extremity of the valve-handle 13.

Beneath the sterilizer 1 and secured to its bottom a little to one side of the burner 10 by means of a small quantity of soft solder 22 is the wire 20, having the eye 21 at its outer end. The length and location of this wire are such that its eye 21 just reaches the finger 14 when the handle 13 is swung toward the left to open the valve wide. Hence all that is necessary to do when using my device is to open the valve and slip the eye 21 into engagement with the finger 14. This retains the valve wide open and permits the gas to flow uninterruptedly to the burner so long as desired. To extinguish the flame, the eye is slipped off said finger and the valve allowed to close. Should, however, the water boil away in the sterilizer when the burner is supplied with fuel, as above described, then the instant the bottom of the receptacle rises above its normal temperature of 100° centigrade the drop of solder 22 melts, the wire 20 thereby released, and the spring-valve closed.

The simplicity of this device is apparent, consisting, as it does, of nothing more than a wire having an eye or hook bent up at one end; but its reliability is even more evident, inasmuch as the melting-point of the solder is made so low that insufficient heat to cause injury can be received by the sterilizer-bottom before the solder softens and releases the wire.

In addition to the eye 21 I prefer to lengthen the wire 20 somewhat and provide it with a second eye 21^a, proportioned to retain the valve-handle 13 at a point to supply only a limited quantity of fuel to the burner, and thereby keep the latter at a low ebb, so that after the water has been brought quickly to the boiling-point, with the finger 14 engaging the eye 21, the valve can be partly closed by the use of the second eye 21^a.

What I claim as my invention, and desire to secure by Letters Patent, is as follows, to wit:

1. The combination with a burner and a liquid-container heated thereby, of a pipe admitting fuel to said burner, a valve for said pipe having a handle provided with a terminal extension and means for its normal self-closure, and a wire having one end detachably connected to said handle extension and its other end soldered to the under side of said liquid-container, whereby said wire remains anchored so long as there is liquid in said container, but when the liquid is evaporated the solder melts and the wire is disconnected and the valve permitted to close.

2. The combination with a burner and a liquid-container heated thereby, of a pipe admitting fuel to said burner, a self-closing valve for said pipe having a handle formed with a terminal finger, and a wire having one end soldered to the under side of said container and its opposite section provided with

a plurality of eyes any one of which is constructed to engage said finger and retain said valve more or less open, whereby the evaporation of the liquid in the container permits the wire to be unsoldered and the valve to close.

In testimony that I claim the foregoing invention I have hereunto set my hand this 9th day of September, 1902.

ROBERT P. BARNSTEAD.

Witnesses:
LOWELL M. MAXHAM,
A. B. UPHAM.