

No. 644,129.

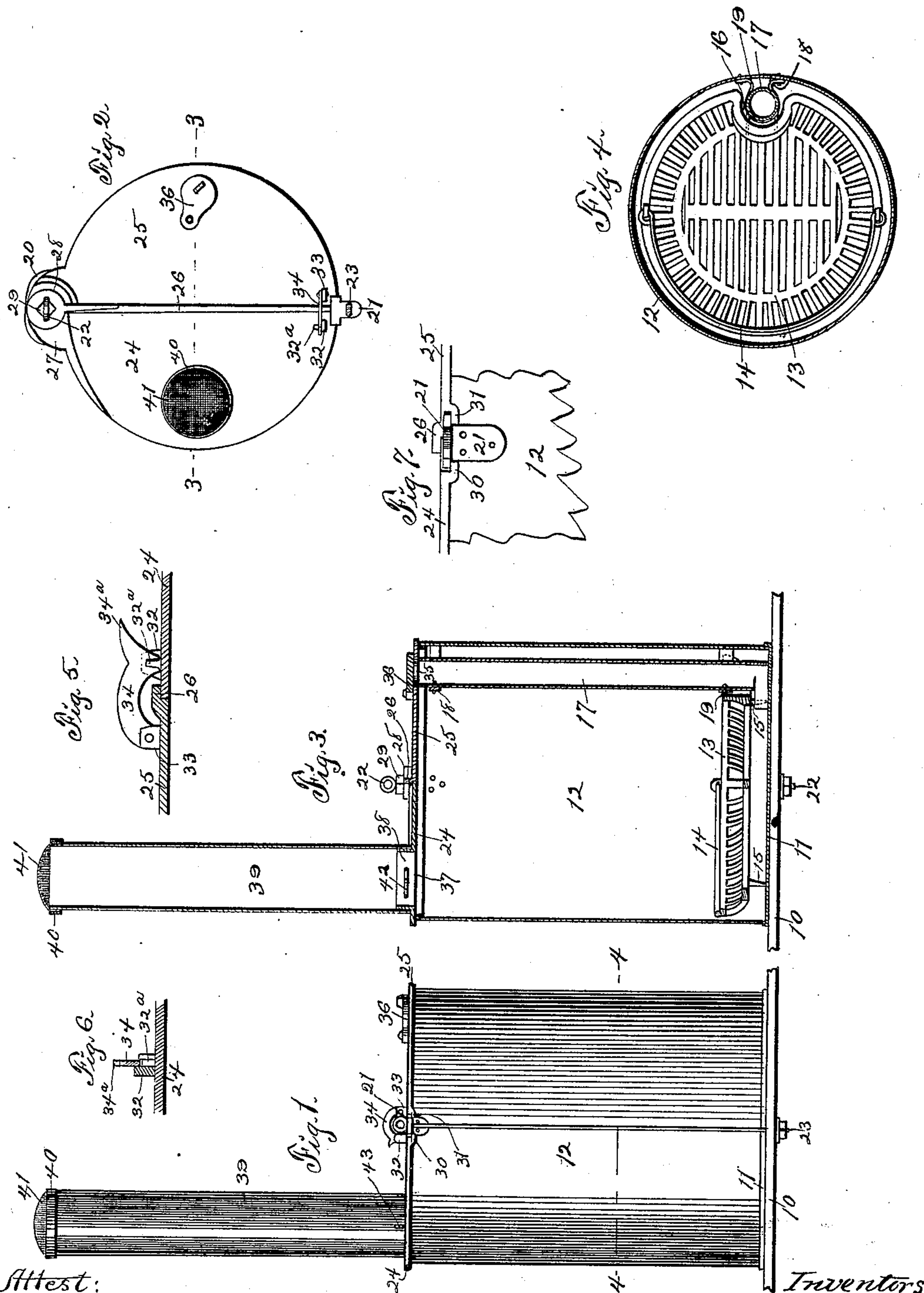
Patented Feb. 27, 1900.

A. R. DEMPSTER & W. D. RINEHART.

TANK HEATER.

(Application filed Feb. 24, 1899.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

ALEXANDER R. DEMPSTER AND WILLIAM D. RINEHART, OF DES MOINES, IOWA, ASSIGNORS TO THE DEMPSTER MANUFACTURING COMPANY, OF SAME PLACE.

## TANK-HEATER.

SPECIFICATION forming part of Letters Patent No. 644,129, dated February 27, 1900.

Application filed February 24, 1899. Serial No. 706,703. (No model.)

*To all whom it may concern:*

Be it known that we, ALEXANDER R. DEMPSTER and WILLIAM D. RINEHART, citizens of the United States of America, and residents of Des Moines, in the county of Polk and State of Iowa, have invented certain new and useful Improvements in Tank-Heaters, of which the following is a specification.

The object of this invention is to provide an improved separable and pivoted cover for a tank-heater.

Our invention consists in the construction, arrangement, and combination of elements hereinafter set forth, pointed out in our claims, and illustrated by the accompanying drawings, in which—

Figure 1 is an elevation of the complete device. Fig. 2 is a plan of the complete device. Fig. 3 is a vertical section of the device on the indicated line 3 3 of Fig. 2. Fig. 4 is a horizontal section of the device on the indicated line 4 4 of Fig. 1. Figs. 5 and 6 are detail views of the means employed to connect the sections of the cover. Fig. 7 is a detail illustrating the means employed to connect the sections of the cover to the heater-body.

In the construction of the device as shown the numeral 10 designates the bottom of a drinking-trough on which the heater rests. The heater is formed with a bottom 11, preferably circular in plan view, and a cylindrical body 12, fixed to the bottom at its lower edge and rising therefrom. The upper edge of the cylindrical body 12 is wired or turned. A basket grate 13, provided with a bail 14 and supported by legs 15, formed on and extending downwardly from the grate, is positioned in and on the upper face of the bottom of the heater and is removable and replaceable through the top of the cylindrical body. The grate 15 is formed with a semicircular notch 16 at a given point in its periphery, and a draft-pipe 17 is vertically positioned in the body of the heater and traverses said notch of the grate. The draft-pipe 17 is circular in cross-section and extends from the bottom 11, on which it rests, nearly to the upper edge of the body 12 and is secured and retained in vertical position by straps 18 19, embracing said pipe and riveted to the body. The lower

end of the draft-pipe 17 is split upwardly a little distance and cut transversely at the upper end of the slit in order that the side of the pipe may be opened toward and beneath the grate 13 to provide a draft-vent to the space below the grate. Ears 20 21 of angle form are mounted on and fixed to the upper edge of the body 12 diametrically opposite each other and are apertured vertically in their outwardly - extending horizontal portions. Rods 22 23 are vertically positioned through the apertures of the ears 20 21, which rods extend downwardly along the outside of the body 12 through the bottom 10 of the tank or trough and are secured by nuts on their lower ends, thereby binding and securing the heater rigidly in the trough.

The cover of the heater is formed in two sections 24 25 of cast metal and similar size and shape. The complete cover is approximately circular in plan view and is diametrically divided to form the sections, and a flange 26 on the section 25 overlaps the meeting edge of the section 24. Ears 27 28 are formed on the sections 24 25 of the cover, respectively, the ear 28 above the ear 27, and are apertured vertically. The sections of the cover rest upon the wired or turned upper edge of the body 12, and the rod 22 traverses the apertures in the ears 27 28, forming a pivot for the sections of the cover. A nut 29 is fixed to the upper end portion of the rod 22 and impinges the upper face of the ear 28, thus holding the ears of the sections of the cover in close relations to the ear 20 on the body. Lugs 30 31 are formed on the sections of the cover at points thereon diametrically opposite the ears 27 28 and extend downwardly and toward each other beneath the outwardly-extending horizontal portion of the ear 21. The function of the lugs 30 31 is to engage beneath and with the ear 21 and hold the cover-sections closely to the upper edge of the body 12. An ear 32 is formed on and extends upwardly from the cover-section 24 adjacent the lug 30 and is formed with a laterally-projecting portion or stud 32<sup>a</sup>, slightly reduced in thickness at the jointure thereof to the ear. An ear 33 is formed on and rises from the cover-section 25 adjacent the lug 31,



and a hook-latch 34 is pivoted at one end on said ear. The free end of the hook-latch is notched on the lower portion to form a fork, so shaped as to engage, when manually placed, the reduced portion of the stud 32<sup>a</sup> on the ear 32 and securely connect the cover-sections. A projection 34<sup>a</sup> is formed on and projects upwardly and forwardly from the free end of the hook-latch, by means of which the latch may be engaged and lifted from the stud 32<sup>a</sup> by the hand of the operator or a tool employed thereby. A draft-port 35 is formed in the cover-section 25 immediately above the upper end of the draft-pipe 17, and a damper 36 is pivoted on said cover-section and so located and arranged as to close said draft-port when manually placed. A smoke-port 37 is formed in the cover-section 24, and a flange 38 is formed on said section and rises therefrom circumferentially of the port. A smoke-flue 39 is mounted on and rises from the flange 38 and is provided with a collar 40, embracing its upper end portion. The collar 40 is employed to engage and clamp a section of wire-cloth 41 to the upper end of the smoke-flue, said cloth crossing and forming a screen or cap for the flue. The lower end portions of the flue 39 and flange 38 are apertured to admit split keys 42 43, whereby the flue is connected to the flange.

The heater is opened for firing, cleaning, repairing, or the removal or replacement of the grate by releasing the latch 34 and swinging one or both of the cover-sections laterally on the pivot formed by the rod 22.

We claim as our invention—

1. In a tank-heater the combination of the body, the ears thereon, the rods traversing the ears and arranged for attachment to a

supporting-trough, the cover formed in two sections and pivoted on one of said rods, the lugs on the cover-sections engaging one of the ears and the latch connecting the cover-sections.

2. In a tank-heater, the combination of the body, the ears 20, 21, thereon, the rods traversing the ears and arranged for attachment to a supporting-trough, the cover formed in two sections, ears 27, 28, on the cover-sections and located above and in alinement with the ear 20 and apertured for pivoting on the rod traversing said ear 20, the flange on one of the cover-sections overlapping the adjacent edge of the other cover-section, the lugs on the cover-sections opposite the ears 27, 28, and engaging beneath the ear 21, and the latch connecting the cover-sections.

3. In a tank-heater, the combination of the body, the ears 20, 21, thereon, the rods traversing the ears and arranged for attachment to a supporting-trough, the cover formed in two sections and pivoted on the rod traversing the ear 20, the lugs on the cover-sections engaging beneath the ear 21, an ear 32 formed on and rising from one of the cover-sections adjacent the ear 21, a stud 32<sup>a</sup> formed on and laterally projecting from the ear 32 and slightly reduced in thickness at the point of jointure to the ear 32, an ear 33 on the other cover-section and a hook-latch 34 pivoted on the ear 33 and notched to embrace the reduced portion of the stud 32<sup>a</sup>, whereby the cover-sections are connected.

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