C. F. PAULUS.

NON-FREEZING FIRE PLUG.

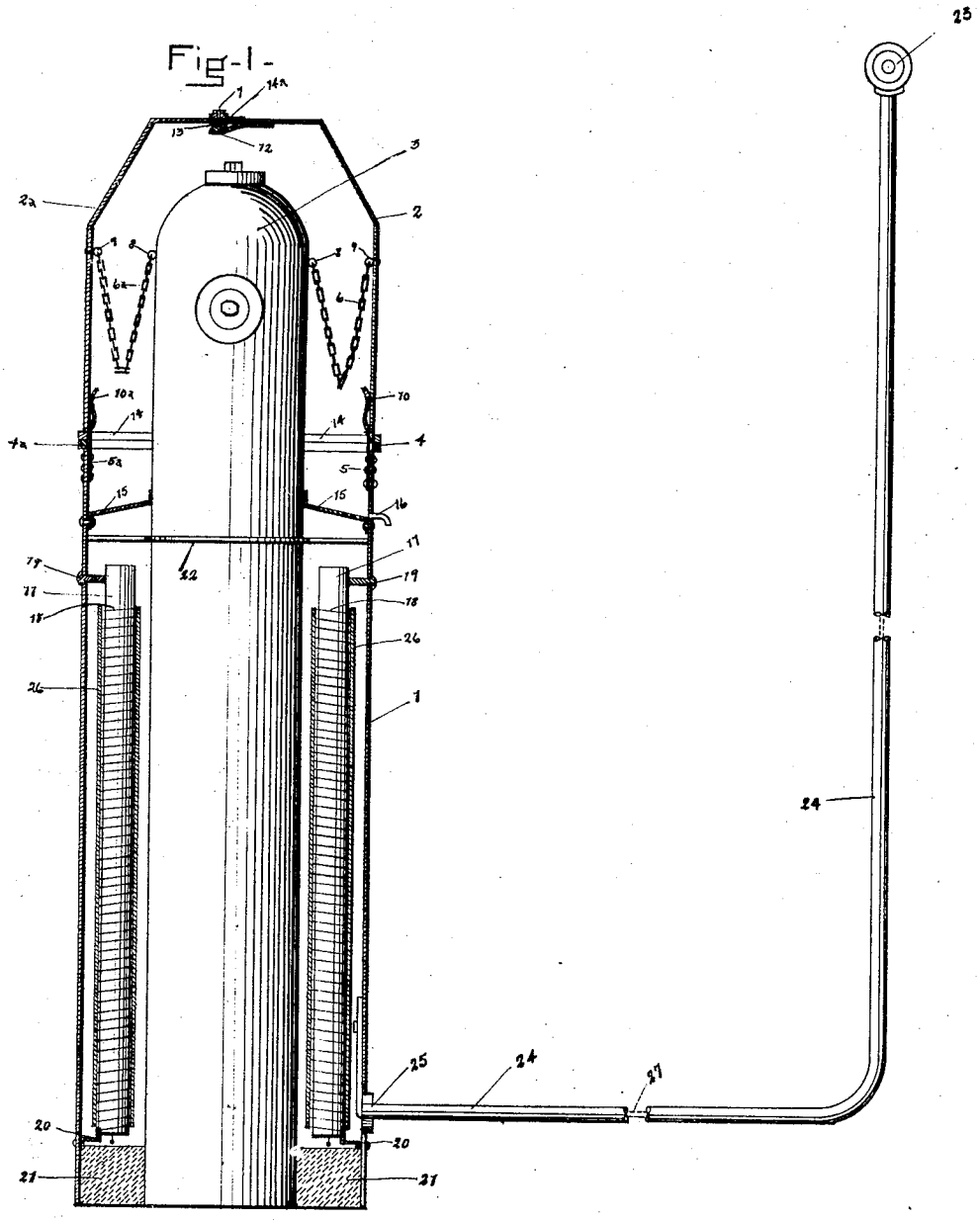
APPLICATION FILED MAR. 20, 1913.

1,105,040.

Patented July 28, 1914.

3 SHEETS—SHEET 1.

Fig-1-



Witnesses

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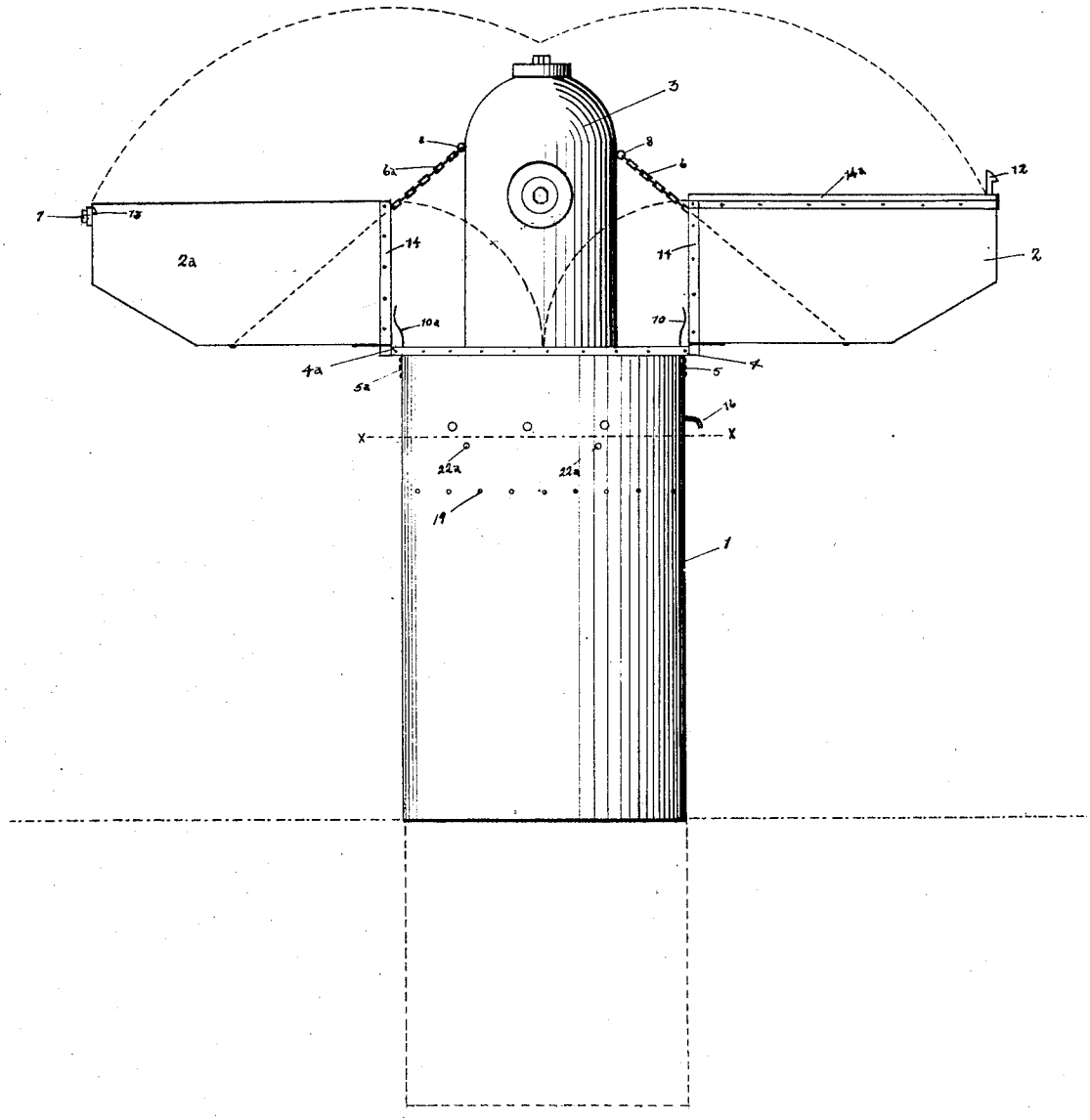
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3 SHEETS—SHEET 2.

Fig-2-



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3 SHEETS—SHEET 3.

Fig-5-

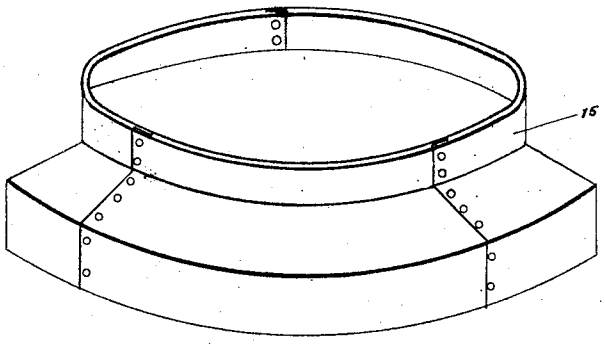


Fig-3-

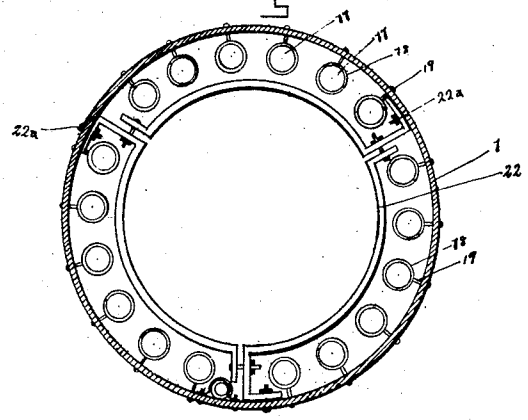


Fig-4-

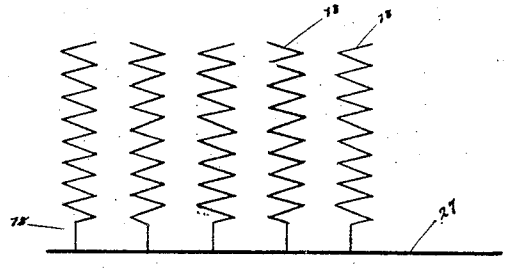
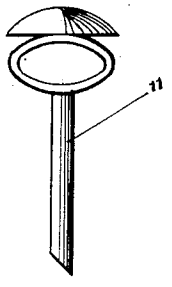


Fig-6-



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UNITED STATES PATENT OFFICE.

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NON-FREEZING FIRE-PLUG.

1,105,040. Specification of Letters Patent. Patented July 28, 1914.

Application filed March 20, 1913. Serial No. 755,643.

To all whom it may concern:

Be it known that I, CHARLES F. PAULUS, citizen of the United States, residing at Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Non-Freezing Fire-Plugs, of which the following is a specification.

This invention relates to improvements in water distribution and more specifically to non-freezing hydrants and plugs for the distribution of water.

The object of my invention is to provide an economical heating device for fire hydrants which may be readily turned on or off as the temperature of the weather might require, simple in construction, arrangement, and operation, easily installed on any plug or hydrant, durable, and neat in appearance.

With the above and other objects in view, my invention consists in the combination, arrangement, and details of construction disclosed in the drawings and specification, and then, more particularly pointed out in the appended claim.

Referring to the drawings, wherein similar reference characters designate similar parts throughout the respective views, Figure 1 is a vertical sectional elevation of the casing and radiators showing their relative position with respect to the plug or hydrant, the insulator being sectioned to show the position of the coils around the flues, and also the switch connection for regulating the heat current. Fig. 2 is a side elevation of the casing with covers unlocked and ready for use. Fig. 3 is a cross-sectional view of the interior arrangement of the flues taken on a line x—x of Fig. 2. Fig. 4 is a fragmental detail view of electric coils showing preferred mode of connection with feed wire. Fig. 5 is a perspective of the plates forming water-shed. Fig. 6 is an elevation of a key for opening the covers.

Referring to the drawings which are merely illustrative of my invention, 1 designates the outer casing of my device while 2 and 2^a are the right and left hand covers thereof respectively, said covers being hinged at 4 and 4^a so arranged as to open outwardly and downwardly to expose the plug 3 unencumbered when in use, such outward and downward movement being regulated, however, by chains 6 and 6^a attached respectively to the plug at 8 and to the cover at 9. The opening movement of the two halves of the cover is facilitated by spring members 10 and 10^a bolted to casing at 5 and 5^a so that the free end of said springs will extend upwardly and outwardly so as to engage the cover halves with an outward pressure thus forcing open the cover when unlocked. When the covers are in closed position around the upper part of the plug, they are locked in position by a spring catch 12 which engages the downwardly projecting member 13. Said covers are unlocked by a key 11 when inserted in key hole 7. Each half of the cover is provided at its bottom with a flange 14 which fits snugly around the top of casing 1, thus making a tight closure. There is also a flange 14^a upon one of the halves of the cover member, said flange extending along the inner sides and top thereof, so that when closed the two cover halves are more tightly sealed. In order that said casing 1 may be free from any water that may drip into it, I have provided a water tight seal 15 to fit between the plug and casing, said seal being formed preferably of three metal plates which slope downwardly and outwardly toward its periphery, thus causing any water to flow to and out of drain pipe 16. Beneath the said plates 15 is my radiator system consisting of annular flues 17 spaced apart around said plug and preferably extending vertically along the length thereof to a point beneath the ground. Each of said flues is held in alining position by a bolt 19 secured short of its upper end and fastened to the casing, and at the bottom by a bracket member 20 similarly secured. The heat coils 18 are wrapped alternately about the flues, one being right-hand wrapped and the next one being left-hand wrapped, and so on with each flue until all the flues are in position alternately wrapped. Said flues are insulated by wrapping with a non-conductor, preferably asbestos, 26 to withstand and radiate the heat generated by the electric coils. German silver wire is preferably used to conduct the current. The feed wire may be joined to the coils in any of the approved methods, though preferably by attaching each of the coils 18 to a main feed wire 27.

A filler of concrete 21 is placed at the bottom between the casing 1 and the plug 3, and a three-piece clamp member 22 forms a bushing around the plug and is secured to the inner side of the casing 1, by bolts 22^a passing therethrough and through a finger integral with an arm extending outwardly

from the bushing portion of said clamp member. The concrete filler and the said clamp member near the top of the casing tends to hold the same rigid and fixedly spaced apart from the inclosed plug.

The current is conducted to the electric heat coils forming the radiator by leading a feed wire 27 to a switch 23, conveniently located on a nearby pole, thence by a conduit pipe 24 extending beneath the ground to the radiator casing 1, to which it is joined at 25 by the usual coupling, whence said feed wire is attached to the coils 18.

Having now described and pointed out the new and useful features of my invention, I do not limit myself to the shape of certain parts where the shape is not essential, such as to the shape of the casing, length and shape of the flues, etc., nor do I restrict myself to the exact details of construction shown and described, but mean and intend to claim all equivalents and variations thereof not departing in principle from my invention and falling within the purview of the appended claim.

I claim as my invention:

In a non-freezing fire plug, the combination of a casing spaced apart around said plug, a cover adapted to inclose the top of said casing and said plug, a partition mounted between said casing and said plug beneath said cover, said partition having an angular slope downwardly and outwardly from said plug to said casing, a drain pipe through said casing above said partition, means whereby said casing may be fixed solidly at its base in spaced apart relation with respect to said plug, a plurality of electric flue coils spaced apart from each other and around said plug between said casing and said plug, and means for directing a current of electricity to said coils when the outer atmosphere has reached a certain degree of temperature.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES F. PAULUS.

Witnesses:

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J. G. PHILIP KEICH.