Sept. 29, 1931. F. KUMP 1,824,823

AQUARIUM HEATER

Filed May 28, 1930 2 Sheets-Sheet 1

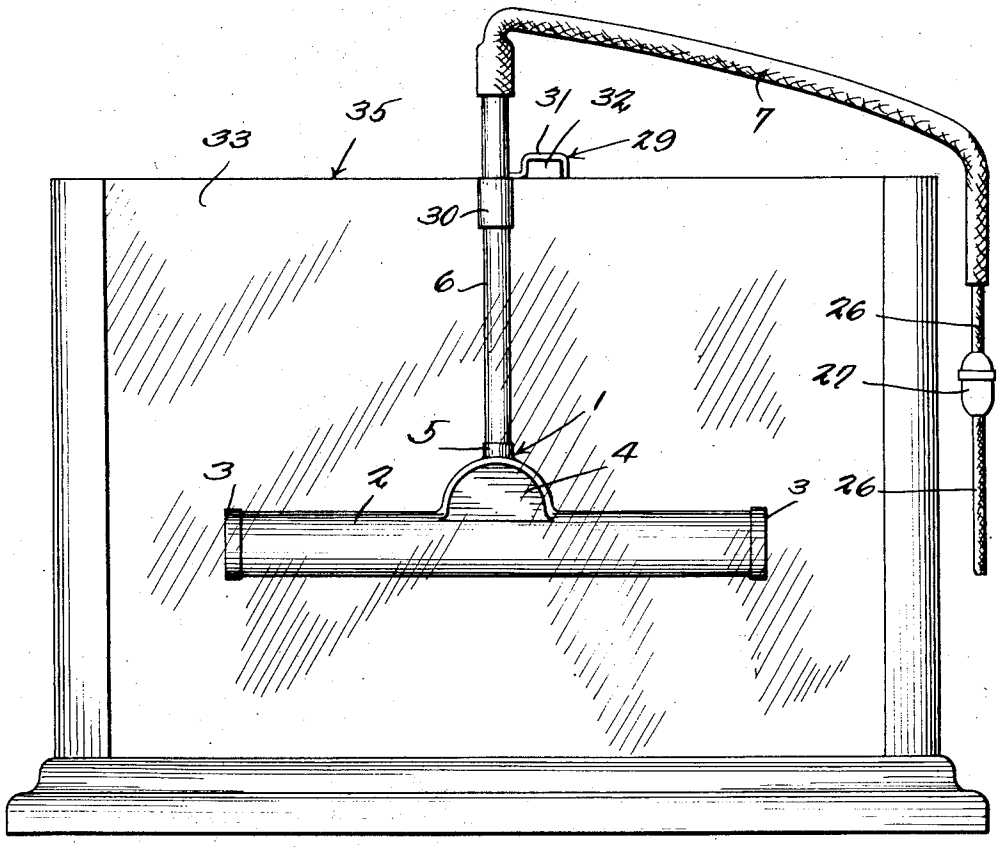


Fig. 1.

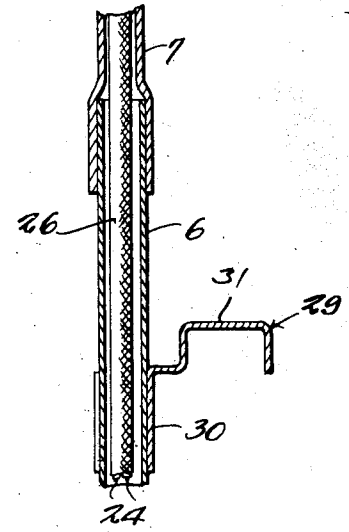


Fig. 2.

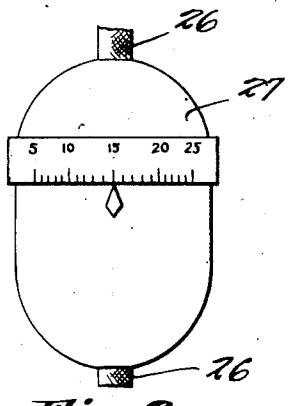


Fig. 3.

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AQUARIUM HEATER

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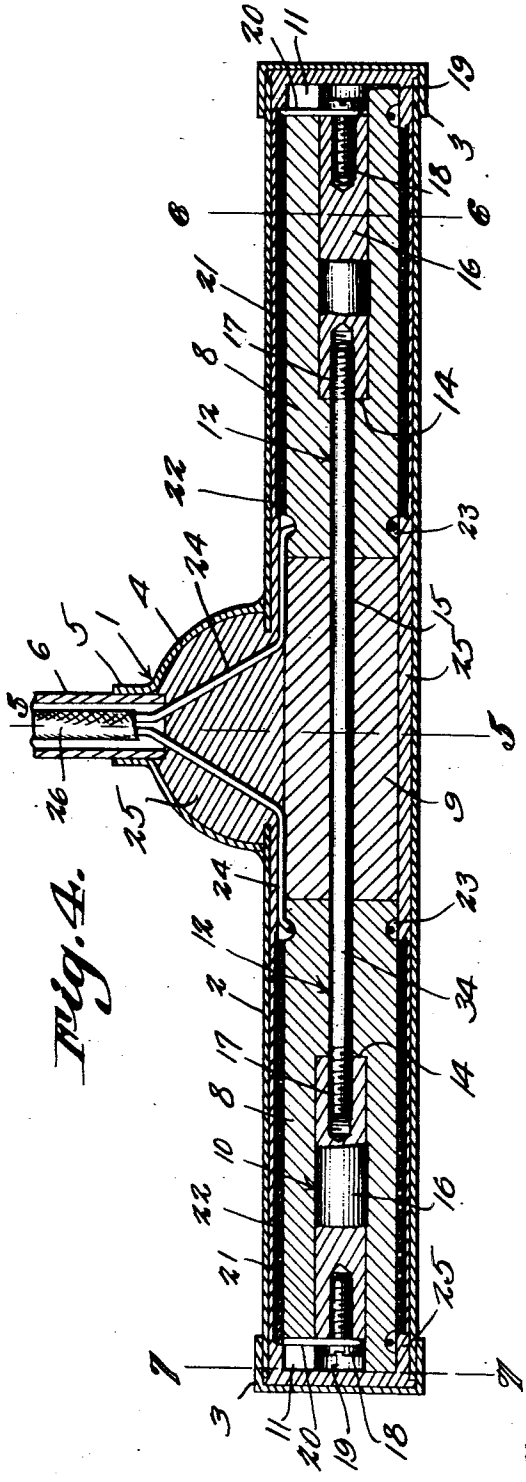


Fig. 4.

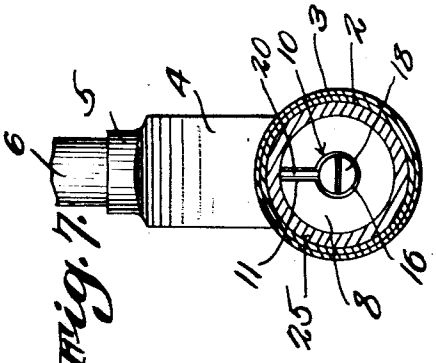


Fig. 7.

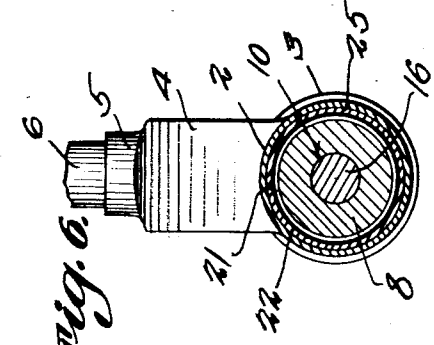


Fig. 6.

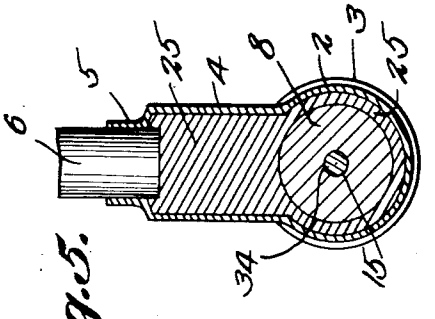


Fig. 5.

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Patented Sept. 29, 1931

1,824,823

UNITED STATES PATENT OFFICE

FERDINAND KUMP, OF GLENDALE, NEW YORK

AQUARIUM HEATER

Application filed May 28, 1930. Serial No. 456,636.

This invention aims to provide novel means for suspending a heating element in an aquarium, and to provide a novel form of electrical heater.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes may be made in the precise embodiment of the invention herein disclosed, within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings: Figure 1 shows in elevation, a device of the class described, mounted in an aquarium; Figure 2 is a longitudinal sectional view showing the stem of the casing and parts associated therewith; Figure 3 is an elevation of the switch; Figure 4 is a longitudinal section through the body of the device; Figure 5 is a cross section on the line 5—5 of Figure 4; Figure 6 is a cross section on the line 6—6 of Figure 4, parts being in elevation; Figure 7 is a section on the line 7—7 of Figure 4.

The device forming the subject matter of this application comprises a casing 1 which is of inverted T-shape, the casing preferably being made of metal. The casing 1 includes a tubular body 2, caps 3 being mounted on the ends of the body. Intermediate its ends, the body 2 has a hollow projection 4 supplied with a reduced cuff 5 in which is secured a tubular stem 6, the stem 6 and the body 2 being rigid. A flexible pipe 7 of any desired length is mounted on the upper end of the stem 6 and may be referred to as an extension of the stem.

Within the body 2 are located the end sections 8 and the intermediate section 9 of a core, which may be fashioned from porcelain, or any other equivalent material. The end sections 8 abut at their inner ends against the intermediate section 9.

In the outer ends of the end sections 8 are formed recesses 10. At their extremities, the end sections 8 have slots 11 leading inwardly to the recesses 10. The end sections 8 have axial bores 12 forming shoulders 14. The intermediate section 9 has a bore 15 in alignment with the bores 12 of the end sections 8.

Retainers 16, preferably made of metal, are mounted removably in the recesses 10. A tie 34 extends through the bores 12 and 15 and is threaded at its ends, as shown at 17, in the inner ends of the retainers 16, the retainers being drawn against the shoulders 14 of the end sections 8 of the core, and the constituent sections 8 and 9 of the core being thereby bound closely together. Binding screws 18 are threaded into the ends of the retainers 16. The retainers 16 are somewhat shorter than the recesses 10, so that in the outer ends of the recesses, there are spaces 19 for the heads of the binding screws 18.

The ends 20 of a resistance wire are engaged by the heads of the binding screws 18 and are held against the ends of the retainers 16. The resistance wires extend outwardly through the notches or slots 11 and are formed into coils 21 about the end sections 8 of the core. The coils 21 may be received within tubular coverings 22.

Near to their inner ends, the sections 8 of the core are provided with circumferential grooves 23 into which extend conductors 24 joined to the inner ends of the coils 21. The conductors 24 extend through the projection 4 on the body 2, and through the stem 6 and the pipe 7, the conductors being enclosed within a flexible sheath 26, a switch or rheostat 27 being interposed in the sheath 26 and in the conductors 24. The switch 27 has not been described in detail because I am aware of the fact that any kind of an electrical switch cannot be claimed in the same application with an aquarium heater. Moreover, various sorts of switches may be used, at the will of an operator, and I do not wish to bind myself to the use of any particular kind of switch. The core 8—9 and parts associated with it are contained within

a refractory packing 25, made of asbestos, if desired, the packing being located within the body 2 and extending up into the projection 4 of the body, as clearly shown in Figures 4 and 5 of the drawings.

The numeral 29 marks a suspension member, including a split sleeve 30 disposed about the stem 6 of the casing 1. The sleeve 30 carries an offset hook 31. The sleeve 30 has a friction hold on the stem 6. It is possible, therefore, to adjust the suspension member 29 longitudinally of the stem 6, to regulate the depth of the body 2 in the water of the aquarium 33. Moreover, since the sleeve 30 has a friction hold on the stem 6, the suspension member 29 may be rotated on the stem to dispose the hook 31 in any desired position, depending upon how the device is to be mounted in the aquarium 33. If it is desired to place the body 3 near the center of the aquarium 33, then the suspension member 29 may be engaged with a bar 32 laid across the upper edge of the aquarium 33. It is possible, however, to dispense with the bar 32, the suspension member 29 being turned through an arc of ninety degrees from the position of Figure 1. Under such circumstances, the hook 31 of the suspension member 29 may be engaged over the edge 35 of the wall of the aquarium.

By a proper manipulation of the switch or rheostat 27, the current supplied from a source of electrical energy may be regulated and the degree of heat governed accordingly. The circuit is simple. It includes the conductors 24, the binding screws 18, the metal retainers 16, the metal tie rod 34, and the coils 21 of the resistance wire.

The device is simple to manufacture and capable of withstanding hard use. Owing to the particular construction shown in Figure 4 of the drawings, the article may be assembled readily. All parts, of course, are hermetically joined at the surface, so that water cannot find its way into the casing 1.

Having thus described the invention, what is claimed is:

1. A device for warming the water in aquaria, comprising a casing of inverted T-shape, and including a body and a stem joined to the body intermediate the ends of the body, electrical heaters in the ends of the body, the inner ends of the heaters being spaced apart an appreciable distance, approximating the length of either heater, to afford a cool space at the stem, and a circuit including the heaters, the circuit extending upwardly through the stem.

2. A device for warming the water in aquaria, comprising a casing of inverted T-shape, and including a body and a stem joined to the body intermediate the ends of the body, a core in the body and made up of aligned end and intermediate members, the end members having recesses, retainers in the recesses, a tie extended through the intermediate member and into the end members, the tie being threaded into the retainers to bind the end and intermediate members together, electrical heaters in the ends of the body and carried by the end members of the core, the intermediate member of the core spacing the heaters apart, to afford a cool space at the stem, the heaters being joined to the retainers, and a circuit including the heaters, the retainers, and the tie, a portion of the said circuit being extended upwardly through the stem.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

FERDINAND KUMP.