

Feb. 18, 1936.

H. A. WALKER ET AL

2,031,019

TEST TUBE HEATER

Filed March 7, 1935

2 Sheets-Sheet 1

Fig. 1.

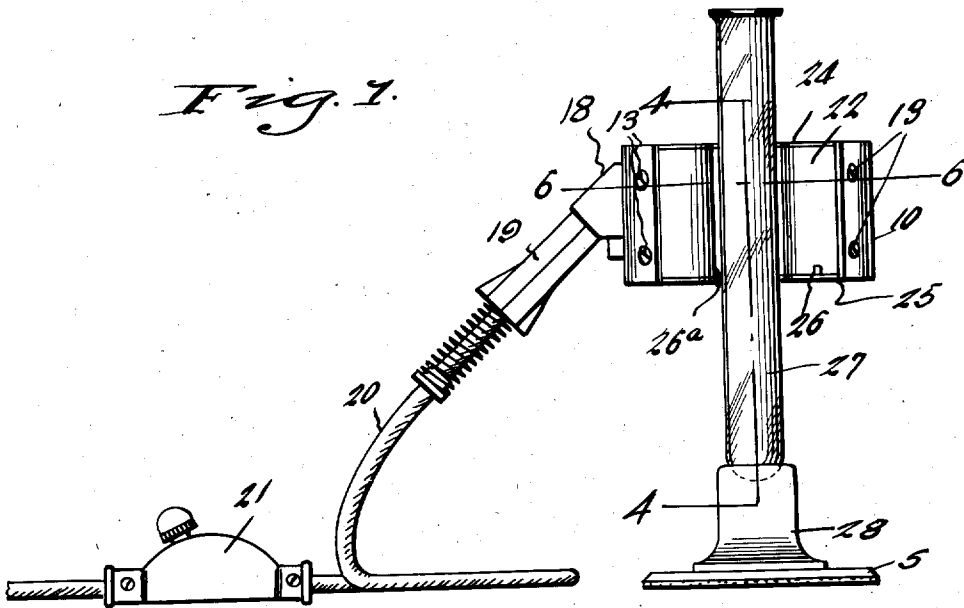


Fig. 2.

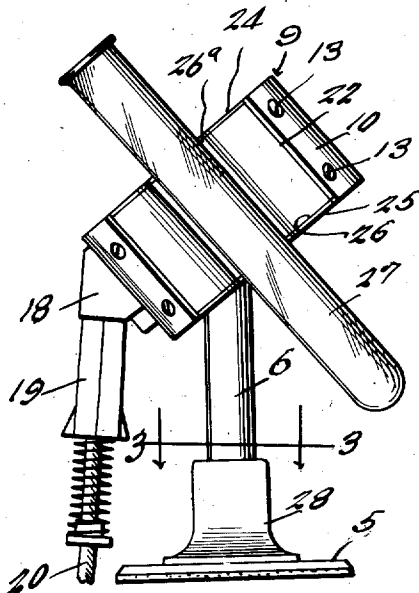
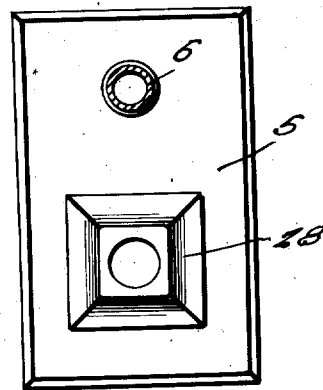


Fig. 3.



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Fig. 4.

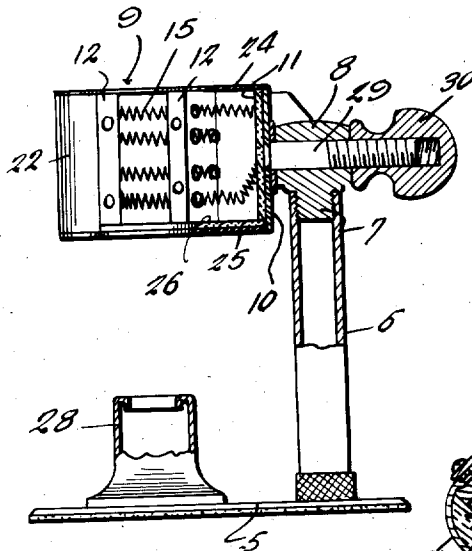


Fig. 6.

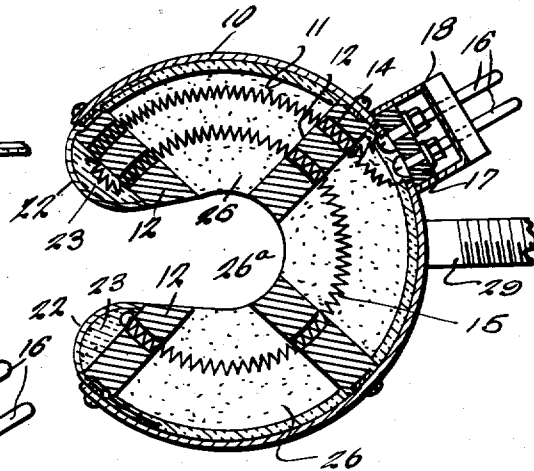


Fig. 5.

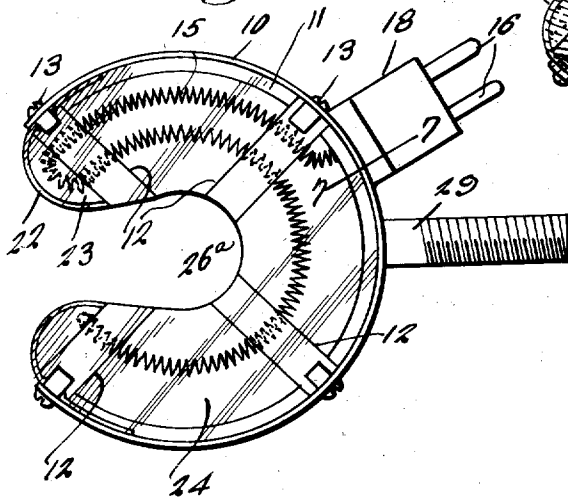
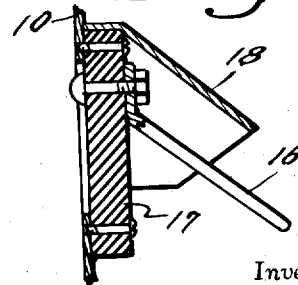


Fig. 7.



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2,031,019

TEST TUBE HEATER

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Application March 7, 1935, Serial No. 9,838

2 Claims. (Cl. 219—19)

This invention appertains to new and useful improvements in electrical heaters and more particularly to an electrical heater for heating laboratory equipment and principally test tubes.

5 An important object is to provide an electrical heater which will readily receive a test tube for the purpose of heating the same in a convenient manner.

10 Another important object of the invention is to provide an electrical heater which can be readily adjusted to permit its positioning on a laboratory table, out of the immediate way of the attendant, but accessible for immediate use.

15 Other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:

Figure 1 represents a front elevational view of the heater and cord attachment.

20 Figure 2 represents a front elevational view of the heater in adjusted position.

Figure 3 represents a sectional view taken substantially on line 3—3 of Figure 2.

25 Figure 4 represents a fragmentary vertical sectional view taken substantially on the line 4—4 of Figure 1.

Figure 5 represents an enlarged top plan view of the heater housing.

Figure 6 represents a sectional view taken substantially on line 6—6 of Figure 1.

30 Figure 7 represents an enlarged fragmentary detailed sectional view taken substantially on line 7—7 of Figure 5.

Referring to the drawings wherein like numerals designate like parts, it can be seen that this novel test tube heater consists of the base 5 having the upstanding tubular standard 6 thereon. This standard 6 is provided with internal threads at its upper end to receive the depending threaded portion 7 of the bearing 8. The bearing 8 is provided with a horizontal bore therein.

The heating assembly is generally referred to by numeral 9 and consists of a shell 10 in the form of approximately two hundred and seventy 45 degrees of a circle and provided with a heat insulation lining 11.

Vertically extending blocks 12, substantially radially disposed with respect to the vertical axis 50 of the heating assembly, are secured to the shell 10 by screws 13. The blocks 12, which are of insulation are each provided with vertically spaced pairs of openings 14 through which the resistance element 15 is trained. The ends of this resistance element 15 are connected to the contact 55

prongs 16—16 which decline from the dielectric block 17 on the side of the shell 10. A sloping hood 18 is secured to the block 17 over the upper portion to act as a guide for the connector 19, to which the cord 20 extends and it is preferable that a suitable switch 21 be provided in this cord 20.

The blocks 12 adjacent the ends of the shell 10 are secured in place by the screws 13 which secure the outer portions of the lip members 22 in place, 10 these lip members serving to embrace the insulating material 23.

The inner portions of the blocks 12 terminate in spaced relation to each other, while a top and bottom 24—25 of mica or some other similar material and of substantially horseshoe shape are provided for the assembly 9. These top and bottom members snugly fit within the confines of the upper and lower portions of the shell 10 as shown in Figure 4.

Obviously with the shell 10 having an open front, and the top and bottom members 24—25 being of horse-shoe shape as well as the top covering 26 from the bottom 25, a pocket 26a is available into which can be readily inserted the test tube 27 (see Figure 1) and either held by the hand with the heating assembly positioned as shown in Figure 2, or with the lower end of the test tube 27 supported in the socket 28, which 30 socket is suitably secured upon the base 5 in a position underlying the heating assembly 9.

To permit tilting operation of the heating assembly to positions such as is shown in Figure 2, the shell 10 at its intermediate portion is provided with a threaded shank 29 for disposition through 35 the bearing 8. An internally threaded knob 30 is engaged along the threaded shank 29 and can be tightened against the bearing 8. Obviously by loosening this knob 30 the heating assembly can 40 be adjusted to the position shown in Figure 2 or some other suitable position, at which the test tube is held manually in place. In this position of the heating unit it is preferable that the knob 30 be tightened to retain the assembly in 45 this adjusted position, but of course it is practical to have the assembly loosely mounted, that is with the knob 30 loose under certain conditions or work.

While the foregoing specification sets forth 50 the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit or scope of the invention as claimed hereinafter.

Having thus described our invention, what we claim as new is:

1. A test tube heater comprising a base, an upright on the base, a housing supported by the upright, said housing being of substantially horse-shoe shape defining a pocket, and a heating element extending throughout the interior of the said housing, and a pivotal connection between the said housing and the upright, said pivotal connection consisting of a bearing supported by the upright and having a smooth bore there-through, a threaded shank on the housing for rotatable disposition through the bore, and a nut engageable on the said shank and against the

bearing to retain the housing in pivotally adjusted position.

2. A test tube heater comprising a base, an upright, a heating unit having an opening therein through which a test tube can be inserted, a shank on the unit for general disposition through the upper portion of the upright and being provided with threads, a hand knob, said hand knob being provided with a threaded socket for receiving the said threaded portion of the shank and adapted to be tightened against the upper portion of the upright to fix the unit in any angularly adjusted position.

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