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THERMOSTATIC PEN HOLDER

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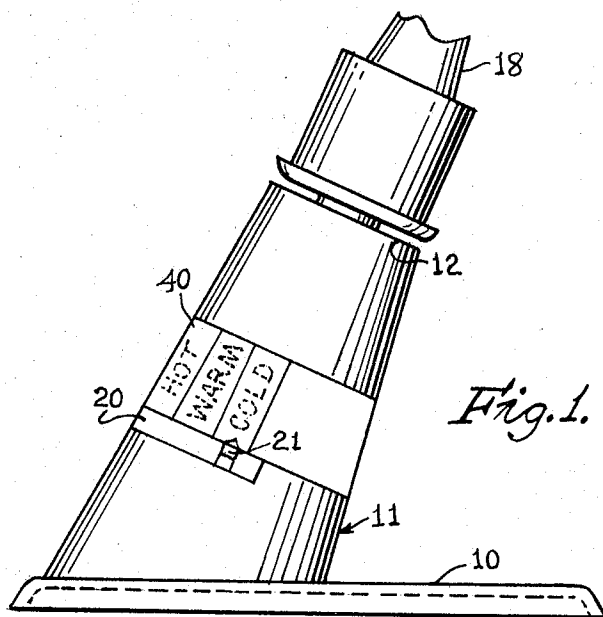


Fig. 1.

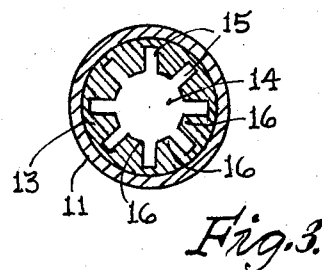


Fig. 3.

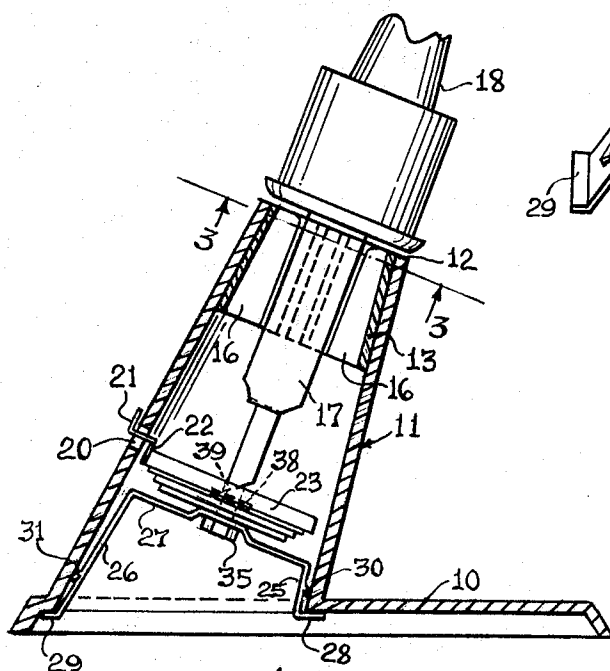


Fig. 2.

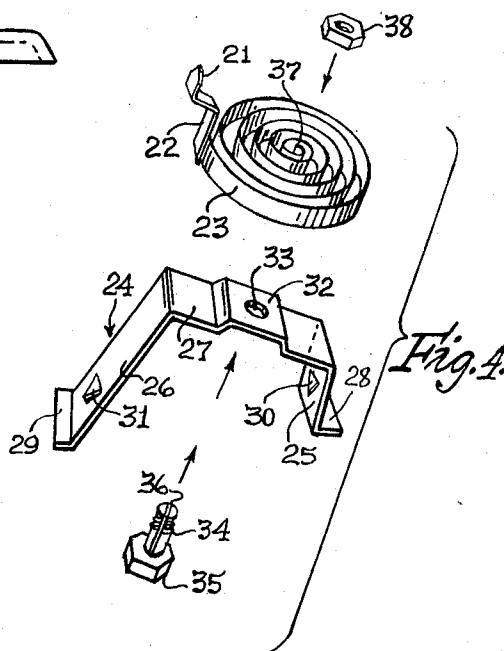


Fig. 4.

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THERMOSTATIC PEN HOLDER

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1 Claim. (Cl. 73—343)

The principal object of this invention is to provide in a device of this character a means for holding an electrically heated pen in a protective condition and for indicating the temperature thereof.

Another object of this invention is to provide in a pen holder of this character a bi-metal thermal coil for actuating an external indicator for visually indicating the temperature of the electrical pyrographic pen held therein.

A further object of this invention is to provide a means of constructing a pen holder of this character that is economical to manufacture, simple to repair and highly efficient in use.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

FIG. 1 is a fragmentary side elevational view of the improved thermostatic pen holder;

FIG. 2 is a fragmentary side elevational sectional view showing the integral construction of the improved thermostatic pen holder;

FIG. 3 is a detail sectional view taken on line 3—3 of FIG. 2; and

FIG. 4 is a perspective exploded view of the internal structural members employed in the improved thermostatic pen holder.

The stated objects of this invention are accomplished by employing the following construction and arrangement of structural members which illustrate the preferred form of embodiments of this invention.

The thermostatic pyrographic pen holder comprises a base 10 preferably formed from a heat-resisting, non-conductive material. Integrally formed as a part of the base 10 is a hollow, truncated, cone-shaped pen holder 11 which, as shown in FIGS. 1 and 2, extends obliquely with respect to the horizontal base 10. Frictionally inserted within the cone-shaped holder 11 adjacent the upper open end 12 is a barrel 13. This barrel 13 is circular in cross section and provides a center bore 14 which has open communication with a series of radially extending slots 15 which provide therebetween a plurality of ribs 16. The bore 14 of the barrel 13 is of a size to receive the protected end portion 17 of a pyrographic pen 18.

One wall 19 of the cone-shaped holder 11 is provided with a slot 20 through which extends one end 21 of a temperature indicator 22. This temperature indicator 22 is connected to one end of a bi-metal thermal coil 23, as shown in FIGS. 2 and 4.

To mount the thermal coil 23 within the cone-shaped pen holder 11 there is provided a mounting bracket 24 which is substantially U-shaped. One leg 25 of the U-shaped bracket 24 is of a length less than the other leg 26 thereof so that when the bracket 24 is mounted within the

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holder 11, the bight portion 27 of such bracket 24 will extend in a parallel plane with respect to the upper open end 12 of the holder 11 as seen in FIG. 2. The legs 25 and 26 of the bracket 24 provide oppositely extending flange members 28 and 29 which are adapted to engage the inner peripheral edge of the cone-shaped holder 11 at its junction with the base 10. The legs 25 and 26 have struck outwardly therefrom prong-like members 30 and 31 respectively, which will bite into the inner peripheral wall of the holder 11 to prevent accidental displacement of the bracket 24 from within the holder 11.

The bight portion 27 of the bracket 24 is provided with an offset section 32 having formed therein a center aperture 33, through which is adapted to be projected the threaded shank portion 34 of the connecting bolt 35. The threaded shank portion 34 of this bolt 35 is also slotted as at 36 longitudinally throughout its length, with the slot 36 adapted to receive the inner free end 37 of the thermal coil 23. A nut 38 is adapted to be threaded onto the bolt 35 to hold the coil 23 onto the bracket 24 within the cone-shaped pen holder 11 with the indicator 22 extending through the slot 20 formed in the wall of the cone-shaped pen holder 11, as seen in FIG. 2.

Thus when the electrically heated pyrographic pen 18 has its operative point 39 inserted into the pen holder 11, the heat from such point 39 will be transmitted onto the thermal coil 23 and the same will either contract or expand depending upon the degree of temperature of such point 39. The thermal reaction of the coil 23 will cause the indicator 22 to move through the slot 20 formed in the wall of the pen holder 11 so as to register with the indicia 40 carried thereby to indicate generally the thermal condition of the pen 18.

The heat created within the holder 11 by the presence of the pen 18, will be readily dissipated through the slots 15 formed in the barrel 13 contained within the upper portion of the pen holder 11.

It should be noted that the legs 25 and 26 of the U-shaped bracket 24 are spread to a degree that they must be compressed toward each other when they are inserted into the bottom opening of the cone-shaped holder 11. This spring tension will also effectively cause the prong-like members 30 and 31 to bite into the inner peripheral wall of the holder 11 so as to correctly position the mounting bracket 24 therein.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claim.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

A pyrographic pen holder comprising

- a heat-resistant non-conductive base and a hollow cone-shaped pen receptacle,
- a pen-holding means within said cone-shaped receptacle adjacent one end thereof for receiving and positioning one end of a pyrographic pen therein,
- a thermal responsive member within said receptacle in spaced relation to said pen-holding means en-

- gageable by the point of a pen inserted therein and movable in response to the temperature thereof,
- (d) means for mounting said thermal responsive member within said cone-shaped pen receptacle, and
- (e) a temperature indicator connected to said thermal responsive member and movable therewith for visually indicating the temperature of the pyrographic pen within said pen holder,
- (f) said means for mounting said thermal responsive member within said cone-shaped receptacle comprising a substantially U-shaped mounting bracket providing means for fixedly positioning the mounting bracket within the receptacle in a predetermined position.

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