

R. W. MUNGER & A. E. MCGINLEY.

HOT POINT PEN.

APPLICATION FILED OCT. 26, 1914.

1,190,447.

Patented July 11, 1916.

Fig. 1

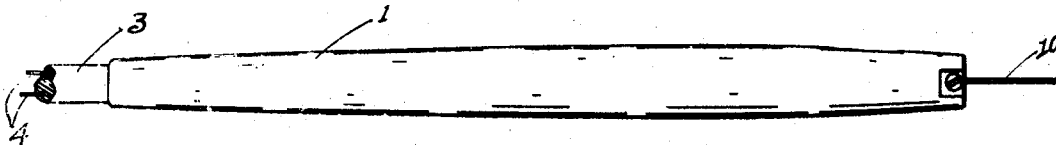


Fig. 2

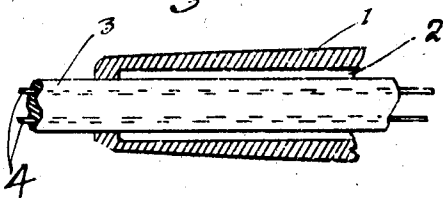


Fig. 3

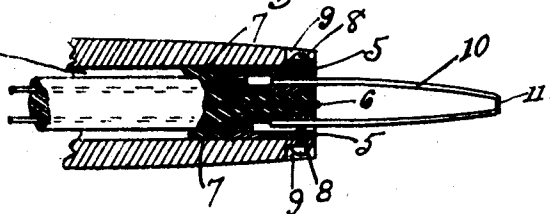


Fig. 4

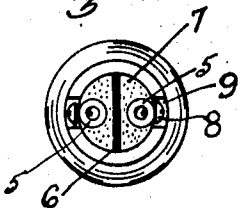
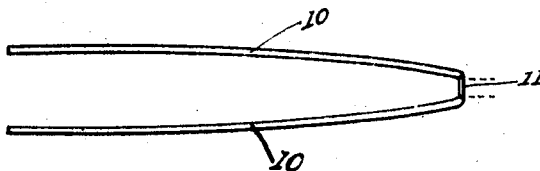


Fig. 5



WITNESSES:

A. V. Allen

H. Grothman

INVENTORS

Robert W. Munger

Arthur E. McGinley

BY *J. P. Ellard*

ATTORNEY

UNITED STATES PATENT OFFICE.

ROBERT W. MUNGER AND ARTHUR E. MCGINLEY, OF TACOMA, WASHINGTON.

HOT-POINT PEN.

1,190,447.

Specification of Letters Patent.

Patented July 11, 1916.

Application filed October 26, 1914. Serial No. 868,635.

To all whom it may concern:

Be it known that we, ROBERT W. MUNGER and ARTHUR E. MCGINLEY, citizens of the United States, and residents of Tacoma, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Hot-Point Pens, of which the following is a specification.

Our invention relates to pens in which the outer end is heated for use either in burnt wood or leather work or for transferring signatures on gold leaf for various purposes, such as applying an identifying mark to a hat band.

The invention relates especially to such pens as are heated by electricity.

The objects of the invention are to provide a small, light, cool pen handle; a removable pen; and to shape the pen in such manner as to protect the soft hot parts from wear on the surface to which the pen is applied.

We attain these and other objects by the devices and arrangements illustrated in the accompanying drawing, in which:—

Figure 1 is a side elevation of our improved pen; Fig. 2 is an enlarged section of the upper end of the pen handle; Fig. 3 is a similar view of the lower end thereof, showing the pen attached thereto in plan; Fig. 4 is an enlarged end view thereof; and Fig. 5 is an enlarged plan view of the pen detached from the handle.

Similar numerals of reference refer to similar parts throughout the several views.

The pen handle 1 is provided with a central hole 2 passing from end to end thereof. The electric cable 3 enters the hole 2 at the upper end thereof (Fig. 2) and extends to a point near the lower end thereof. The cable 3 contains two electric wires or conductors 4. The wires 4 extend from the end of the cable and are soldered into the terminal tubes 5 (Fig. 3). The tubes 5 are separated by a strip of mica, or other body of very high resistance, 6 and are set in a suitable cement 7. Each tube 5 has a contact screw 8, passing through one side near the end, the head

of each screw lying in a notch 9 in the end of the handle 1. The pen consists of a resistance wire 10 bent at its center so that its ends are substantially parallel. The part 11 between the bends at the center is narrowed down to a considerably smaller cross-section and this part 11 lies preferably substantially straight. The parallel ends of the pen are inserted in the tubes 5 and are secured therein by the screws 8. When a current flows in the wires 4 it is conducted to the pen through the tubes 5 and rapidly heats the part 11, which can then be applied to write in any of the well known ways. However, those parts of the wire 10 which are immediately adjacent to the part 11 are heated more by the heat of said part 11 than by the current passing therethrough and are therefore not quite as hot as the part 11 and are harder and more suitable to take the wear of the body to which it is applied. Thus though the heated part 11 is immediately adjacent to the body to which the pen is applied, it is protected from wear thereon by the cooler adjacent parts, thus increasing the life of the pen without losing any of its effectiveness.

Pens may be bent to various shapes for special purposes, each adapted to the material on which it works and to the nature of the work. The temperature of the point is controlled by adjusting the current in the wires 4 in any of the well known ways.

Having described our invention, what we claim is:

A hot point pen, comprising two side members and a cross member, said side members having a larger cross section at the points of juncture with the cross member than said cross member thereby forming shoulders at the junction points adapted to remain cooler than the cross member and to receive the wear.

ROBERT W. MUNGER.
ARTHUR E. MCGINLEY.

Witnesses:

C. L. RICHARDS,
FRANK M. CRAIG.