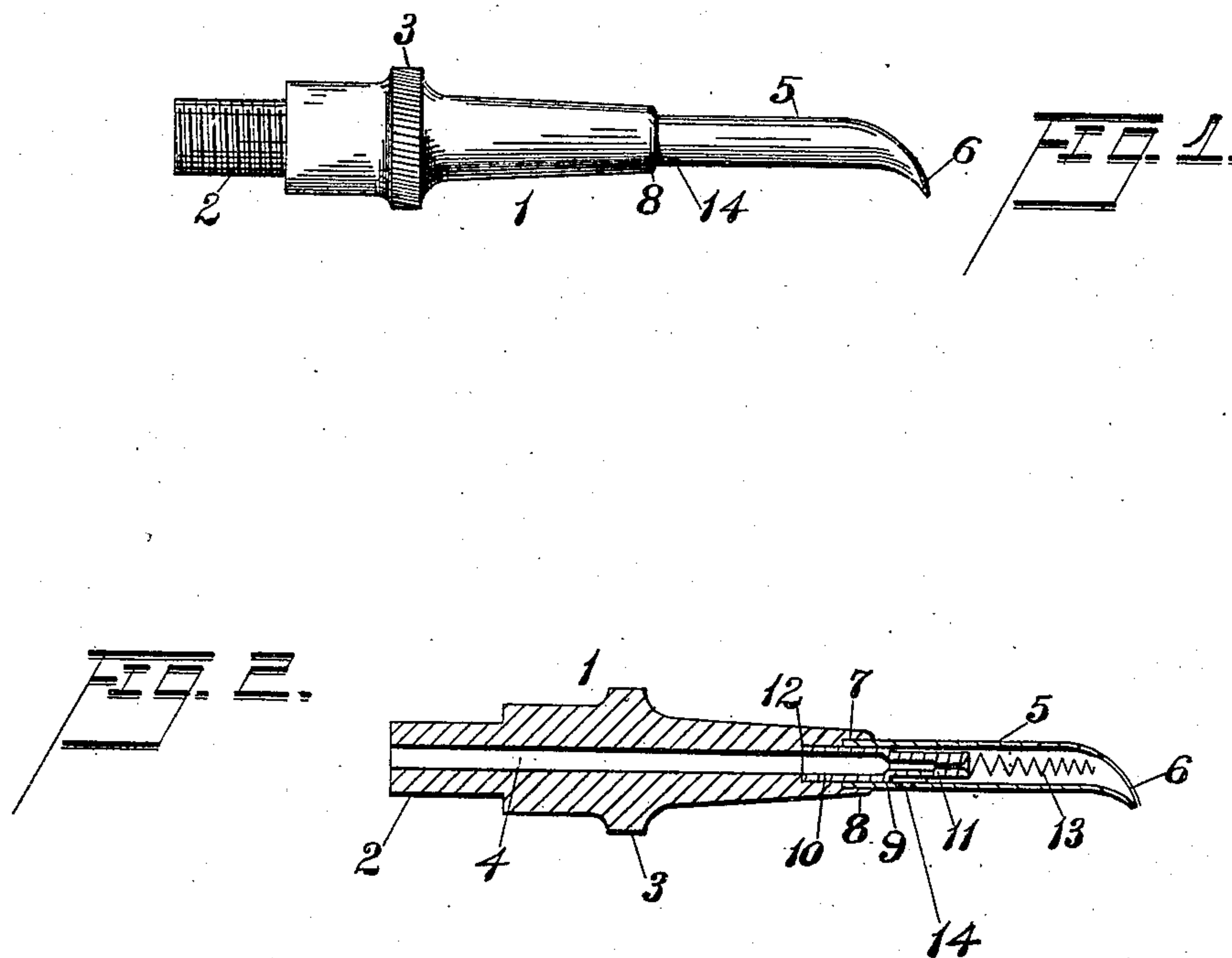


No. 855,577.

PATENTED JUNE 4, 1907.

J. HETHERINGTON.  
PYROGRAPHIC BURNER.  
APPLICATION FILED MAR. 30, 1907.



WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN HETHERINGTON, OF BELLEVILLE, NEW JERSEY, ASSIGNOR TO NEW JERSEY SCREW WORKS, A FIRM.

## PYROGRAPHIC BURNER.

No. 855,577.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed March 30, 1907. Serial No. 365,606.

*To all whom it may concern:*

Be it known that I, JOHN HETHERINGTON, a citizen of the United States, residing in Belleville, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Pyrographic Burners, of which the following is a specification.

The objects of this invention are to secure such a construction of the burner as will facilitate the attachment of the shell or burner-tube to the lug or shank of the burner; to simplify and cheapen the manufacture of burners; to secure a firm and rigid attachment of the shell to the lug, which shall not be affected by the heat of the burner, and to obtain other advantages and results as may be brought out in the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in the several figures; Figure 1 is a side elevation of a burner embodying my improvements, and Fig. 2 is a central longitudinal section of the same.

In said drawings, 1 indicates the lug or shank of the burner, provided at one end with a threaded portion 2 adapted to be screwed into a handle (not shown), and having an exterior milled surface 3 to facilitate such screwing. The said lug has a central longitudinal passage 4 as is usual in pyrographic burners, and at its end opposite said threaded end 2 is secured the shell or burner tube 5 adapted at its outer extremity 6 to perform any kind of work as is common. It is to the attachment of the said shell 5 to the lug 1 that my invention especially relates, and this broadly is accomplished by interiorly enlarging the longitudinal passage 4 of the lug for an outer end portion of itself, as at 7, the end of the shell being then inserted in said enlargement and the outer walls 8 thereof closed in by any suitable operation to grip the said shell and hold it firmly. The said enlargement 7, it will be understood, is of such size that the shell fits nicely when first

inserted, and the bottom of the enlargement or recess forms a stop for the end edges of the shell.

A tubular tip 9 is inserted in the outer end of the passage 4 of the lug so as to project into the shell, and preferably this tip comprises a large base portion adapted to fill the shell and a small outer portion 11 of smaller diameter than the shell. Furthermore the said base portion 10 is long enough to extend into the lug beyond the end of the shell 5, as shown, an inner enlargement 12 of the passage 4 of the lug being provided to receive it and forming at its bottom a stop to determine the insertion of the tip. In assembling the parts, therefore, the tip 9 is first inserted in the lug so that the outer enlargement 7 provides an annular recess around the base portion 10 of said tip. The end of the shell 5 is then thrust into this annular recess and the outer wall 8 pressed inward so that the shell is firmly gripped between said wall and the base portion of the tip. The outer small part 11 of the tip thus provides an annular space between itself and the shell.

A spiral coil 13 of wire is secured to the end of the tip 9, as usual, and the shell has a lateral vent 14 as is common.

Having thus described the invention, what I claim as new is:

In a pyrographic burner, the combination of a lug having a longitudinal passage, said passage having an outer radial enlargement and an inner enlargement of less diameter than the outer, a tip having a base portion fitting said inner enlargement of the lug passage and extending into the outer enlargement, and a shell inserted at its end into the said outer enlargement around the base of the tip.

JOHN HETHERINGTON.

In the presence of—

GEORGE WIMMER,  
RUSSELL M. EVERETT.