P. NEFF.

Gas-Burner for the Manufacture of Lamp-Black.

No. 160,789. Patented March 16, 1875.

Fig. 1

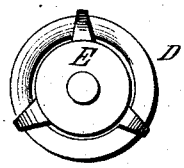


Fig. 2

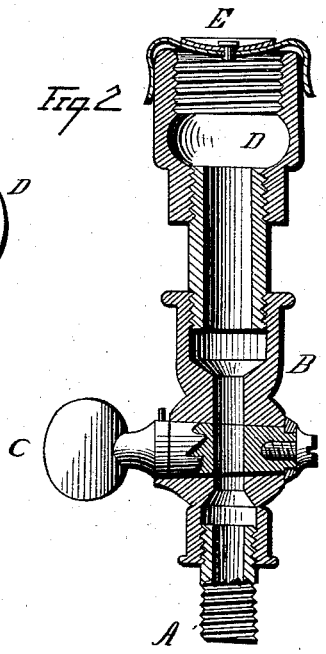


Fig. 3.

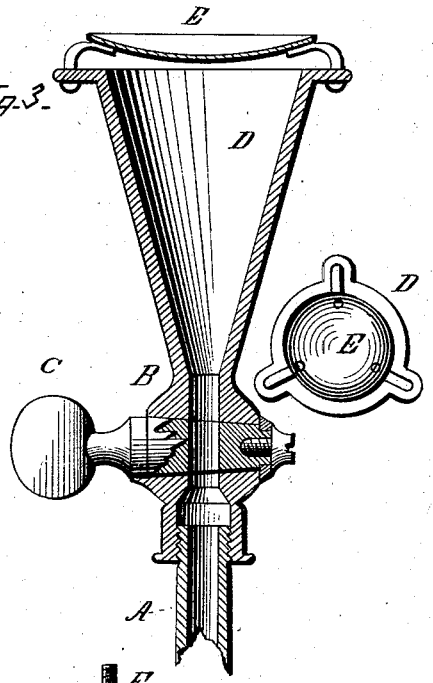
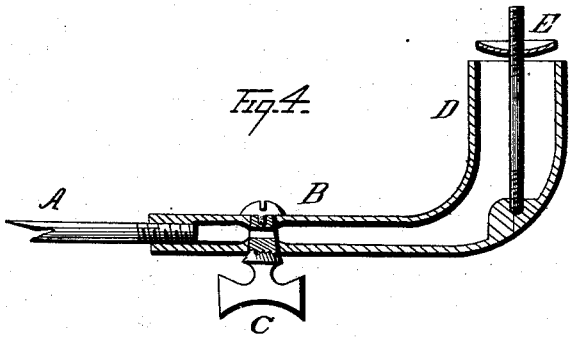


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

PETER NEFF, OF GAMBIER, OHIO.

IMPROVEMENT IN GAS-BURNERS FOR THE MANUFACTURE OF LAMP-BLACK.

Specification forming part of Letters Patent No. 160,789, dated March 16, 1875; application filed January 25, 1875.

CASE C.

To all whom it may concern:

Be it known that I, PETER NEFF, of Gambier, in the county of Knox and State of Ohio, have invented certain new and useful Improvements in Burners to be Employed in Manufacturing Lamp-Black; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

This present application (Case C) is a modification or slightly different construction of the burner, and forms one of a number of applications made by me for certain improvements in gas-burners to be used in the manufacture of lamp-black.

My invention relates to a burner to be applied or employed in the manufacture of lamp-black; and consists in forming the said burner with a wide open mouth of greater diameter than that of the pipe or stem of the burner, and of a disk or plate located in the said mouth for the purpose of spreading the gas as it emerges from the burner, for the purposes hereinafter set forth.

In the drawing, Figure 1 is a plan view of the top of my burner. Fig. 2 is a sectional view of the same. Fig. 3 is a view of a variation of my said invention. Fig. 4 is another variation.

In the manufacture of lamp-black from gas it is desirable that the gas should issue from the burner in such a manner as to cause it to be burned at a low temperature, and at the same time so as to waste or permit to go unconsumed as little gas as possible. My invention is designed to effect this improvement.

A is a service-pipe, or a pipe through which the gas is fed to the burner. B is the burner, into which the flow of gas is regulated by the stop-cock C. D is the enlarged or widened mouth of the burner. E is a disk or plate, that is suspended in any suitable manner so as to be preferably just above the mouth of the burner, and to be about the same size as the said mouth. It is also made preferably in a dish shape, so as to direct the gas in its motion out under the said disk.

The operation is as follows: Gas, entering the said burner through the feed-pipe, enters the enlarged portion, strikes against the under side of the disk E, and is directed outward in all directions in a large flattened shape, as in the drawing. In this way the gas is spread into a hollow conical form, and will have but a thin wall of the said gas exposed upon its outside to the oxygen of the air, the inside being hollow, or not filled with gas, as would be the case were the disk dispensed with.

By forming the burner in this manner, with a wide open mouth and the disk B, the gas is made to burn with a very slight pressure and at a low temperature. All or nearly all of the gas is consumed on the surface, little, if any, being permitted to rise to the apex of the cone, where the heat is usually of such intensity as to burn up the carbon.

Instead of employing the disk E in the manner shown in Figs. 1 and 2, the disk may be secured in a position in any suitable manner, as, for instance, in the manner shown in Fig. 3; or it way be suspended in the center by a rod or brace, substantially as shown in Fig. 4; or in any other suitable manner whereby the disk is held in the enlarged mouth of the burner. So, also, the disk may not, necessarily, be dished, as shown in Fig. 1, but may be flat, or any other suitable form, and may extend out to a greater or less extent.

In constructing the burner it may be formed as shown in Fig. 2, wherein the enlarged mouth is reduced by successive reducing-joints until of a size sufficient to attach it to the feed-pipe A; or the said burner may be cast or otherwise formed—in the first instance of a tapering shape, small at the bottom and large at the top, as shown in Fig. 3; or the burner may be in the form of an elbow, as shown in Fig. 4, without departing from the nature of my invention, which contemplates a burner which has a broad widened mouth and a diminished stem, and a deflecting plate or disk in an open mouth for the purpose of burning gas at a low temperature for the manufacture of lamp-black.

This burner is designed for use in any mechanism, or in any place where gas, either natural or artificial, is burned in the manufacture of lamp-black, the essential feature being that

the gas is fed to the burner through a pipe or orifice less than the burner, and is permitted to flow freely through and out from the burner.

It is obvious from the foregoing that the gas may be burned from the end of a pipe of uniform dimensions, and the flow of gas be governed by the stop-cock, so that the gas flowing through the diminished orifice formed by the stop-cock will flow freely to the end of the pipe, where it is burned.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the wide open mouth C of the burner for use in the manufacture of lamp-black, of the removable deflecting-disk D, substantially as and for the purposes described.

2. In a burner for use in the manufacture of lamp-black, the combination of a diminished orifice or stem, A, through which the gas is fed, a wide open mouth, D, from which it is burned, and a deflecting plate or disk, E, placed directly over the mouth thereof, substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER NEFF.

Witnesses:
FRANCIS TOMNEY,
H. T. HOWER.