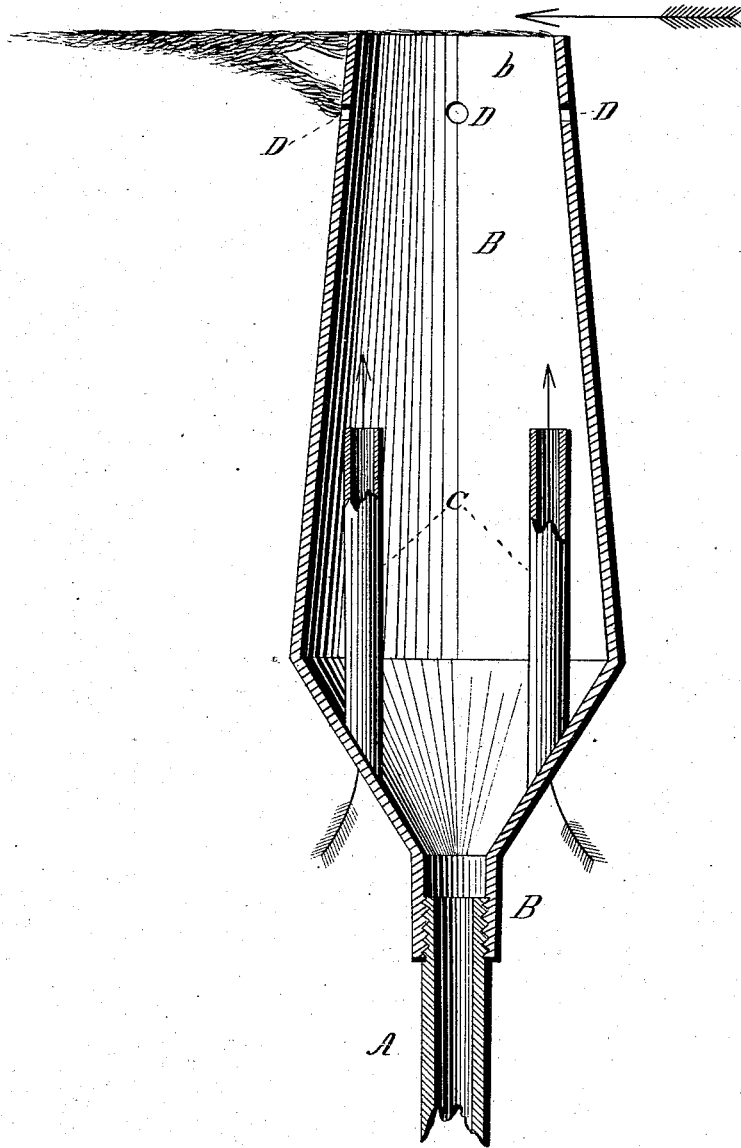


P. NEFF.

Waste-Gas Burner.

No. 160,785.

Patented March 16, 1875.



WITNESSES
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PETER NEFF, OF GAMBIER, OHIO.

IMPROVEMENT IN WASTE-GAS BURNERS.

Specification forming part of Letters Patent No. **160,785**, dated March 16, 1875; application filed January 25, 1875.

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 Waste-Gas Burner; 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.

My invention relates to an improved device whereby the waste inflammable gases that escape from gas-wells, or from any place or manufactory where there is an escape of such inflammable gases, may be burned without danger of being extinguished by the wind; and consists in a peculiar burner provided with air-tubes, whereby gas is mixed with oxygen before reaching the point at which it is burned, and orifices near the said point at which the gas is consumed, whereby the flame is maintained, no matter in what direction the wind may be blowing.

In the drawing, Figure 1 is a longitudinal sectional view of my invention, showing parts in elevation.

A is the pipe, through which the gas is permitted to escape; B, my improved burner, located upon the top of the said pipe; C, small pipes, connecting at the bottom with the open air, through which air is fed to the gas, and mingles therewith before the gas reaches the point at which it is to be burned, namely, at the top *b* of the burner B. D are orifices located (in the device shown in the drawing) in an annular series near the top of the burner B. The object of the orifices D is that should the wind blow so strongly as to extinguish the flame at the top *b* of the burner the orifices on the lee side will maintain a jet of flame, which will cause the unburned gas escaping from top, as well as from the orifices, to be ignited.

The operation of the device is as follows: As the gas ascends into the burner B from the pipe A it is so rich that unless previously mixed with air it would be easily extinguished at the top *b* of the burner B. To avoid this,

air is constantly fed to the gas through the tubes C, and this air becomes thoroughly mingled with the gas, considerably reducing its richness before it reaches the top of the burner *b*. In this condition the gas is hard to extinguish by ordinary winds. Should, however, the wind blow to such an extent as practically to extinguish the flame at the top *b*, the jets of flame projecting from the orifices D on the lee side will keep the gas escaping from the burner constantly ignited.

In localities where inflammable gas is permitted to escape into the air it is especially desired that the gas should be burned in order that it may not find its way to localities where it will create damage. It is also desired as a means of maintaining a light about the premises. Moreover, should the gas become extinguished from an ordinary pipe, it becomes necessary to relight the same. For this purpose a person has to proceed to the burner with a light. Such a person is in danger of becoming enveloped in the said gas by a sudden gust of wind, and, should the gas become ignited, is placed in imminent danger. All this is avoided by my improvement, whereby the gas is kept constantly burning.

The air-pipes C are made to extend well up into the burner in order that gas from the pipe A may not escape through the said orifices.

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

1. The combination, with a gas-pipe, A, of a burner, B, the said burner provided with the air-pipes C and orifices D, substantially as and for the purposes described.

2. The combination, with the burner B, of the independent air-pipes C, made to extend well up into the same, and some distance above the gas-supply pipe, 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.