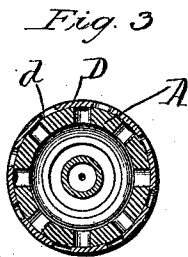
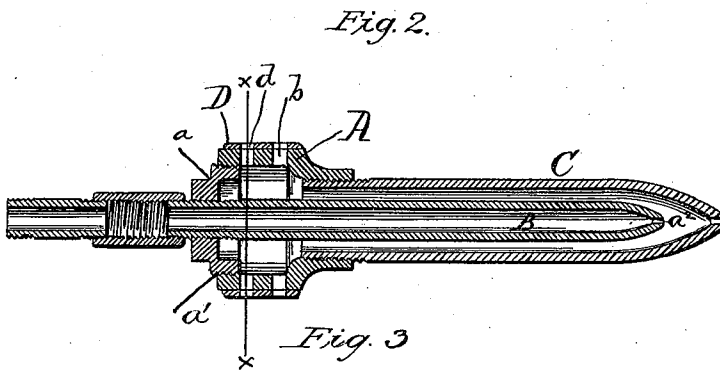
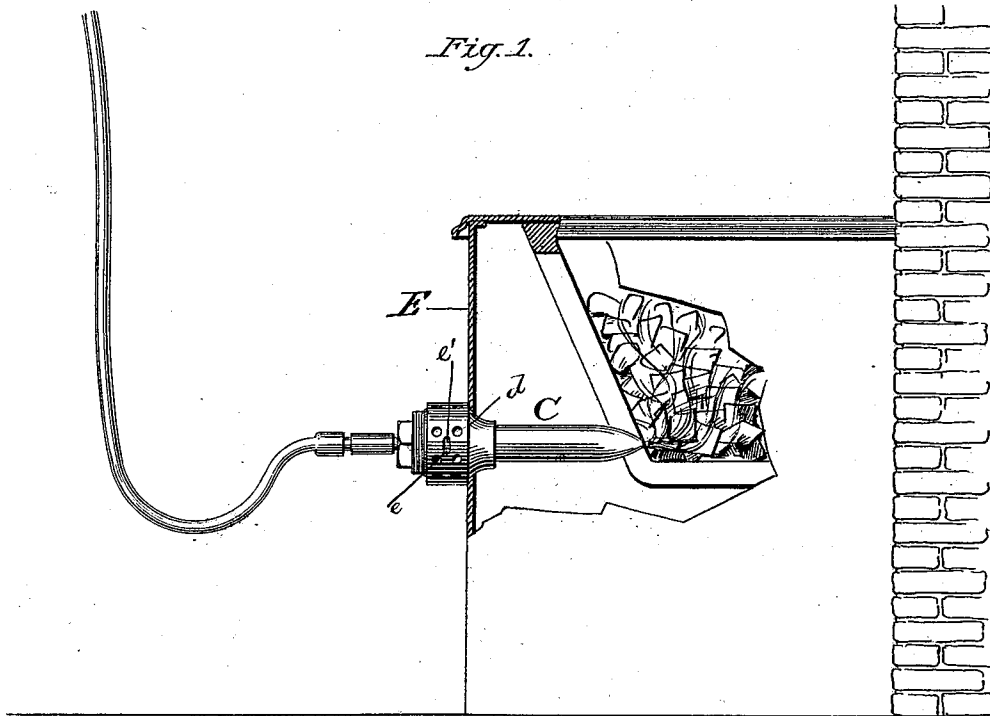


(No Model.)

H. L. JOHNSON.
FIRE KINDLER.

No. 511,433.

Patented Dec. 26, 1893



Witnesses:
Howard Seale
Alphonse B. Malone

Inventor:
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UNITED STATES PATENT OFFICE.

HENRY L. JOHNSON, OF WARNER, NEW HAMPSHIRE.

FIRE-KINDLER.

SPECIFICATION forming part of Letters Patent No. 511,433, dated December 26, 1893.

Application filed March 21, 1893. Serial No. 467,042. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. JOHNSON, a citizen of the United States, residing at Warner, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Fire-Kindlers; 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 appertains to make and use the same.

My invention relates to improved devices for kindling fires by injecting a flame of gas mingled with air into the mass to be ignited and my invention consists in a novel combination and arrangement of parts all as herein-after described and claimed.

In the accompanying drawings is illustrated the simplest form of the device for general use in which—

Figure 1 represents a vertical section of an ordinary form of range showing the manner of applying the kindler. Fig. 2 is a longitudinal section of the most approved and simplest form of kindler. Fig. 3 is a transverse section of the same on the line "x x" in Fig. 2.

The simplest form of device for practicing my method as before stated is illustrated in the accompanying drawings and consists of a hollow disk or head "A" which for convenience in constructing the same has one end "a" made detachable or separate from the main portion and preferably in the form of a screw plug and which plug is provided with a central screw threaded perforation "a'", with which a pipe "B" is engaged. This pipe "B" extends out some distance beyond the head with its end tapering or made into burner form with one or a series of escape outlets "a2" therefrom, the opposite end being provided with a screw thread by which to couple the same with a supply pipe from a gas generator or other source. A pipe "C" of similar form is connected to the head and of such diameter as to leave a space between the walls of the pipes to form an air space or channel and which pipe "C" is also provided with an outlet or outlets similar to pipe "B."

The head "A" is provided with a series of perforations "b" opening into the center thereof and the head is surrounded by a ring "D" provided with similar perforations "d."

A pin "e" projecting from the head engages an elongated slot "e'", formed in the ring, the slot being of such length as to permit the perforations in the ring to be brought over the perforations in the head or to match therewith or over the space between the same to close said openings, all as shown in Fig. 3, or partly close the same for cutting off the supply of air or regulating the amount supplied to the pipe "C."

The pipes "B" and "C" as above stated extend out some distance beyond the head "A," to form an elongated channel or air passage with the inlet openings for said air near the base thereof.

In applying the device a removable door "E" is employed which is to be substituted for the draft door when the device is in operation and which door "E" is provided with an opening which closely embraces the burner so that the entire draft supply to promote combustion shall be through the opening in the base of the burner and which door can be removed after the fire has been kindled; or, if found desirable, the ordinary draft door may be provided with a special opening having a door to close the same into which opening the burner can be inserted or a special opening may be made in any part of the range, stove, or other device to insert such burner, the location of which being such that the flame from the burner shall strike into the coal or other thing to be ignited or heated at the proper point.

The device thus constructed is operated in the following manner: When coal or other combustible material is to be ignited the same is placed in the fire pot or grate; the gas is supplied to the burner which is ignited at the outlet or outlets in the pipe "C," and the burner is inserted through the opening in the draft door and when the flame therefrom strikes the combustible material it causes the latter to become ignited.

By the form and construction of device herein shown the air to promote combustion, both to the material to be consumed and also to the gas, enters at the base of the gas supply tube causing the same to be heated thereby before reaching the discharge outlet therefrom, and, being mingled with the escaping gas in such heated state, tends to promote the

full combustion thereof and cause a more intense heat to be injected into the combustible material to be ignited, the admission of the proper amount of air in accordance with the gas pressure being regulated by the ring "D." By this method of heating or kindling it will be seen that the only supply for promoting combustion of the fuel during the act of starting the fire is in the form of a highly combustible vapor or gas and that the same when ignited, coming in contact with the coal or other combustible material, serves first to ignite the same and, then, mingling with the fresh gases arising therefrom, acts on the other portions of the mass and serves in a short time to ignite fully the entire mass. It will also be seen that no kindling such as ordinarily employed is necessary and that a fire which has gone out by accident or otherwise may be relighted, without the necessity of cleaning out or renewing the entire mass.

The device as will be seen is portable and may be carried from room to room and attached to the ordinary gas supply by a rub-

ber tube in a manner that will be readily understood.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A gas burner for kindling fires consisting of a ring having circumferential air openings and interior screw threads at each end, an interiorly and exteriorly screw threaded bushing engaging the ring at one end, a screw threaded air pipe engaging the ring at the other end, a screw threaded gas pipe situated within the air pipe and engaging the bushing, and a perforated air regulating ring surrounding the first named ring, the ends of the air and gas tubes being contracted, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

HENRY L. JOHNSON.

Witnesses:

HOWARD BEALL,
ALPHONSUS B. MALON.