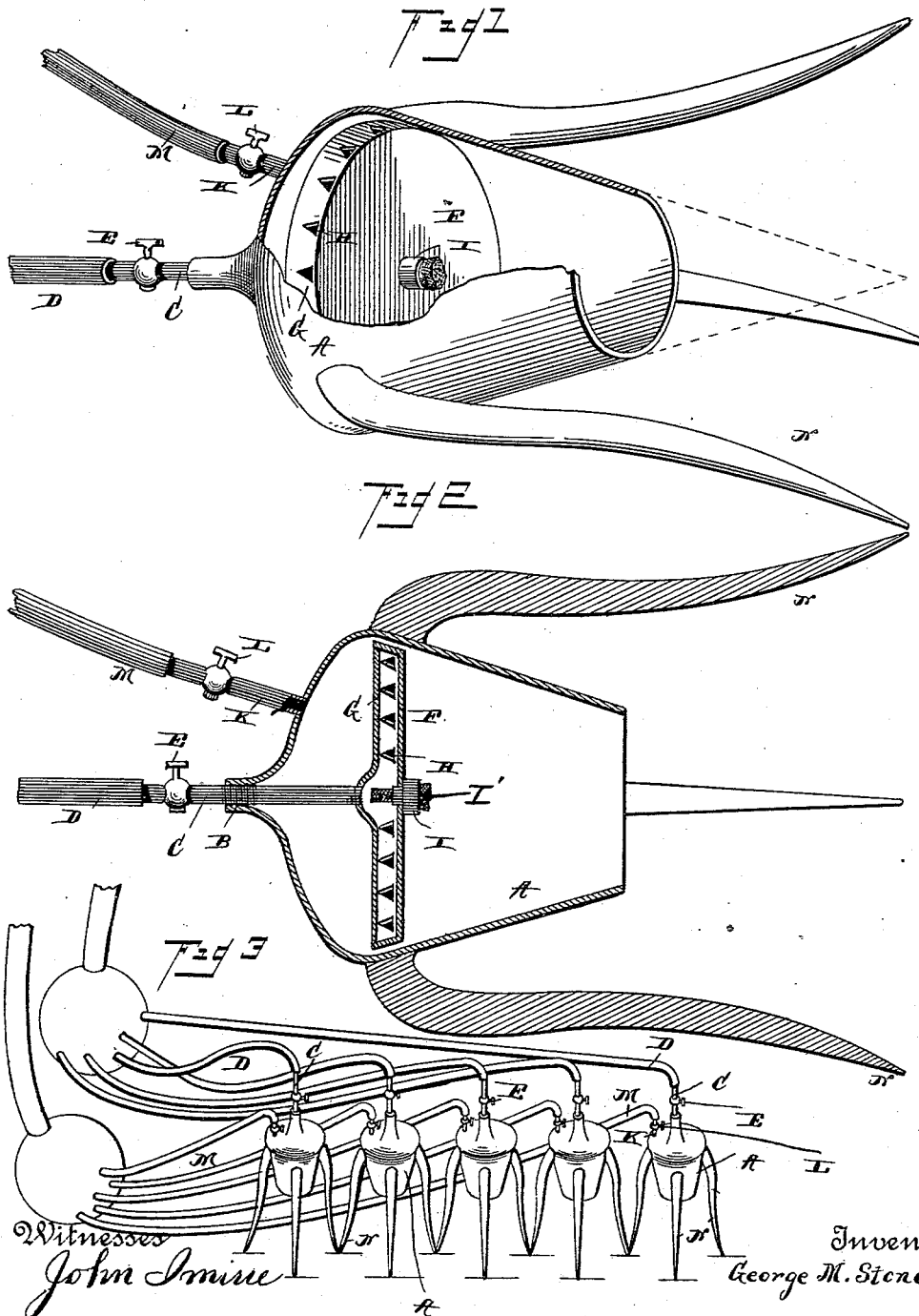


(No Model.)

G. M. STONE.
BURNER FOR PETROLEUM, &c.

No. 420,124.

Patented Jan. 28, 1890.



Witnesses
John Imine

John Imine

Inventor
George M. Stone

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UNITED STATES PATENT OFFICE.

GEORGE MELANCTHON STONE, OF EAST JAFFREY, NEW HAMPSHIRE.

BURNER FOR PETROLEUM, &c.

SPECIFICATION forming part of Letters Patent No. 420,124, dated January 28, 1890.

Application filed January 11, 1889. Serial No. 296,075. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MELANCTHON STONE, a citizen of the United States, residing at East Jaffrey, in the county of Cheshire and State of New Hampshire, have invented a new and useful Improvement in Burners for Petroleum, &c., of which the following is a specification.

My invention relates to an improvement in burners or atomizer blow-pipes for petroleum and other hydrocarbons, adapted to be used for disintegrating rock and for other purposes; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a burner embodying my improvement, a portion of the conical casing being removed. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a perspective view, showing a group or battery of my improved burners arranged in position to operate on a rock.

A represents a case, which forms the frustum of a cone. In the base of the case is a central threaded opening B, in which is fitted and through which extends the threaded inner end of a pipe C, which is adapted to supply petroleum or other suitable inflammable material to the burner, and is connected by a flexible pipe D to a reservoir of petroleum. The pipe C has a stop-cock E. Secured to the inner end of the pipe C and arranged within the conical case near the base thereof is a hollow diaphragm or spreading disk F, which has a flange G, that projects toward the base of the case, and is provided around its perimeter with a series of V-shaped openings H. In the center of the spreading-disk is a tube I, in which a wick I' may or need not be inserted, according to the material used as fuel.

K represents a pipe which communicates with the base of the conical case and is provided with a stop-cock L. A tube M is secured to the pipe K, and through the said tube M a blast of air or steam may be forced by a pair of bellows, a blower, or from a steam-boiler.

The case A is provided with three or more

supporting-legs N, of sufficient length to support the burner at such a height above the object on which it is located that the focus of the flame will just touch the said surface or object, as indicated by dotted lines in Fig. 1.

The operation of my invention is as follows: The petroleum or other hydrocarbon fed through the pipe C is ignited at I and burns in the case A. The blast of steam or air supplied to the base of the case through the pipe K is directed through the openings H, and by the diaphragm or deflector F against the inner sides of the conical case and serves to concentrate the flame to a focus at the apex of the cone. The liquid is atomized in the cone by the blast, which also serves to force the fire through the same, and thereby the burner forms an atomizer blow-pipe.

By turning the pipe C the threaded portion thereof will cause it to move lengthwise, and thereby move the deflecting-disk F toward or from the base of the cone to increase or diminish the size of the annular space between said disk and cone as may be required. The quality of petroleum fed to the burner may be regulated by the cock E, and the strength of the blast of air or steam may be regulated by the cock L.

Fig. 3 represents a group or battery of my improved burners, arranged in position to operate on the surface of a rock and heat the same, this being one of the steps commonly employed in disintegrating rock.

I do not confine myself to the use of my improved burner for this purpose, as it may be advantageously employed for a variety of purposes.

Having thus described my invention, I claim—

1. The combination of the conical case A, the fuel-inlet pipe C, extending through the base thereof and adjustable therein, the hollow spreading disk or deflector F, secured to the inner end of said pipe and having the flange G, provided with the openings H, for the purpose set forth, said flange being flared and parallel with the sides of the conical case, and the air or steam pipe communicating with the base of the case, substantially as described.

2. The combination of the case A, the pipe C, extending through the base of the same,

and the spreading-disk F, arranged within
the case and out of contact with the sides
thereof, and the pipe communicating with
the base of the case to supply air or steam
5 thereto, said spreading-disk being hollow and
provided with a flange G, projecting toward
the base of the case and having the V-shaped
openings H, substantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature 10
in presence of two witnesses.

GEORGE MELANCTHON STONE.

Witnesses:

J. MINOT PIERCE,
A. M. CALDWELL.