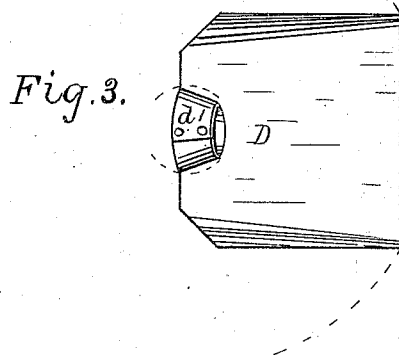
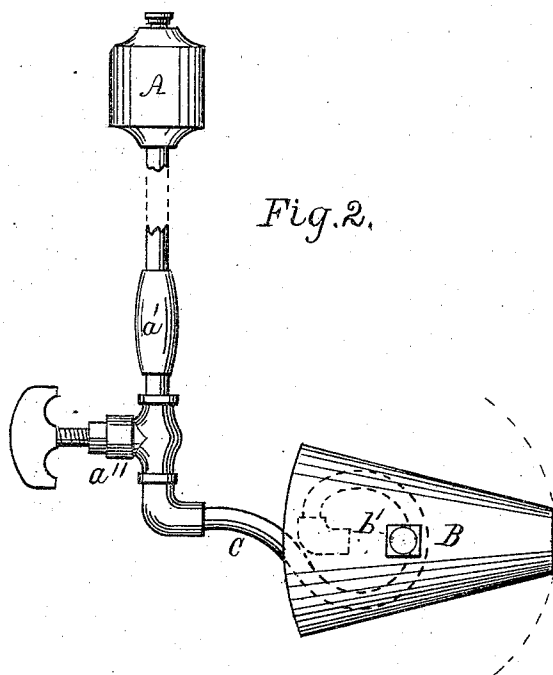
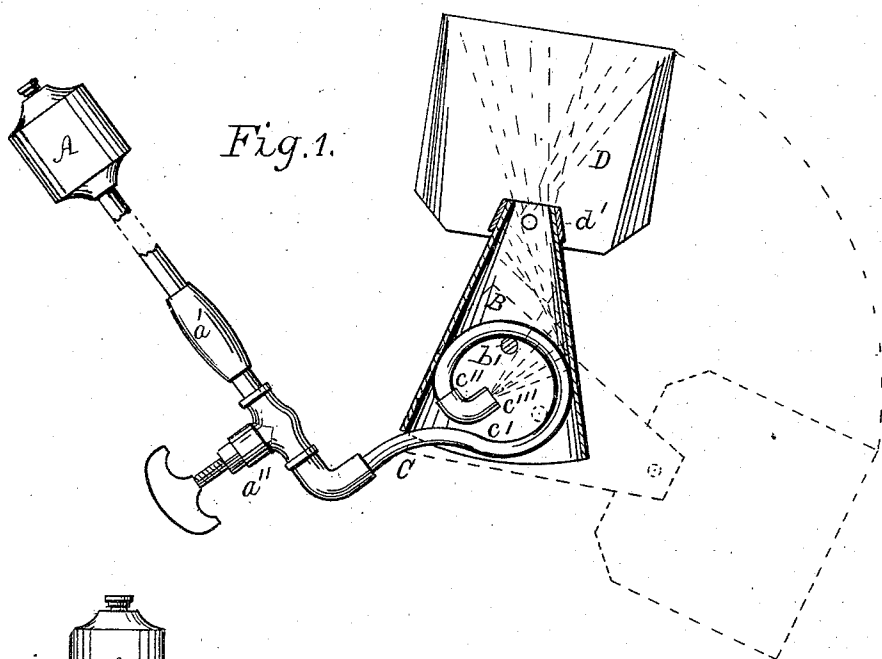


J. P. HAYES.
PAINT-BREAMER.

No. 169,439.

Patented Nov. 2, 1875.



Witnesses:

Benj. Morison.
Wm. H. Morison.

Inventor.

John P. Hayes.

UNITED STATES PATENT OFFICE.

JOHN P. HAYES, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PAINT-BREAMERS.

Specification forming part of Letters Patent No. **169,439**, dated November 2, 1875; application filed September 9, 1875.

To all whom it may concern:

Be it known that I, JOHN P. HAYES, of the city of Philadelphia, in the State of Pennsylvania, have invented an Improvement in Paint-Breamers, of which the following is a specification:

The object of my invention is twofold—first, to enable the operator to readily direct the flame-jet in any direction upward or downward, for the purpose of breaming under and upper horizontal or inclined surfaces, as well as such as are vertical; and, second, to protect at the same time, when desirable, side or other surfaces from the injurious effects of the hot flame.

The construction and mode of operation of my said invention will hereinafter be fully described with reference to the accompanying drawing, in which—

Figure 1 is a side view of a hydrocarbon-reservoir and jet-burner with a vertical section of my invention applied thereto; Fig. 2, a side view of the same reservoir, with the directing-tube in full, without the side protector; and Fig. 3 is a full view of the side protector detached.

The reservoir A, with its conduit-pipe *a'* and stop-cock *a''*, is constructed in substantially the same manner as that shown in the patent granted to Ivory Hayes for a flame-protector, dated June 29, 1875, No. 164,996; but the burner end of the pipe C in my invention is bent into a more circular form from *c'* to *c''*, for the purpose of guiding and holding the tapering flame-tube B in its variable positions, as will be described.

The flame-tube B is first made in the form of a hollow conical frustum, and then the two opposite sides of the larger portion pressed toward each other, so as to give its transverse section the form of a flattened ellipse, for the purpose of causing it to receive within it the circular or retort portion *a' a''*, as shown in Fig. 1, and with the jet end *c'''* brought near to the center of said circular portion, so as to cause the flame-jet to project forward against the mid-length of the latter, for the purpose of heating it. The smaller end of the tube B is

left circular, for the purpose of receiving over it the socket *d'* of the plate D, which is adjustable and detachable, for the purpose of defending side or such other surfaces as do not require to be breamed by the flame which may be acting near the same. Near the middle of the tube B there is a nutted screw-bolt, *b'*, which is inserted transversely through B, after the latter has been slipped over the coiled portion of the jet-burner pipe C, so that the side of said bolt *b'* will bear against the inner side of the curve *c' c''*, and thus keep the tube B from slipping off from pipe C when the latter is being moved or vibrated upward and downward in directing the flame-jet accordingly. (See Figs. 1 and 2.)

In Fig. 1 the protecting or defending plate D is shown applied to the burner-pipe C, so as to defend the vertical side—say of glass or painted wood—while the flame is operating upon the under side of the adjoining surface, and the dotted lines in the same figure indicate the same parts turned downward.

Fig. 2 shows the tube B directed horizontally without the defending-plate D, which can be applied at any time, and adjusted thereon so as to defend either vertical, under, or upper surfaces from the jet-flame, as occasion may require.

The construction, mode of operation, and utility of my said invention will be clearly understood and appreciated without any further description or explanation.

I claim as my invention—

1. The vibratile tube B, in combination with the flame-jet pipe C of a paint-breamer, the said tube and pipe being constructed and arranged to operate together, substantially in the manner and for the purpose set forth.

2. The protecting or defending plate D, in combination with the tube B, substantially in the manner and for the purpose hereinbefore set forth and described.

JOHN P. HAYES.

Witnesses:

BENJ. MORISON,
WM. H. MORISON.