

(No Model.)

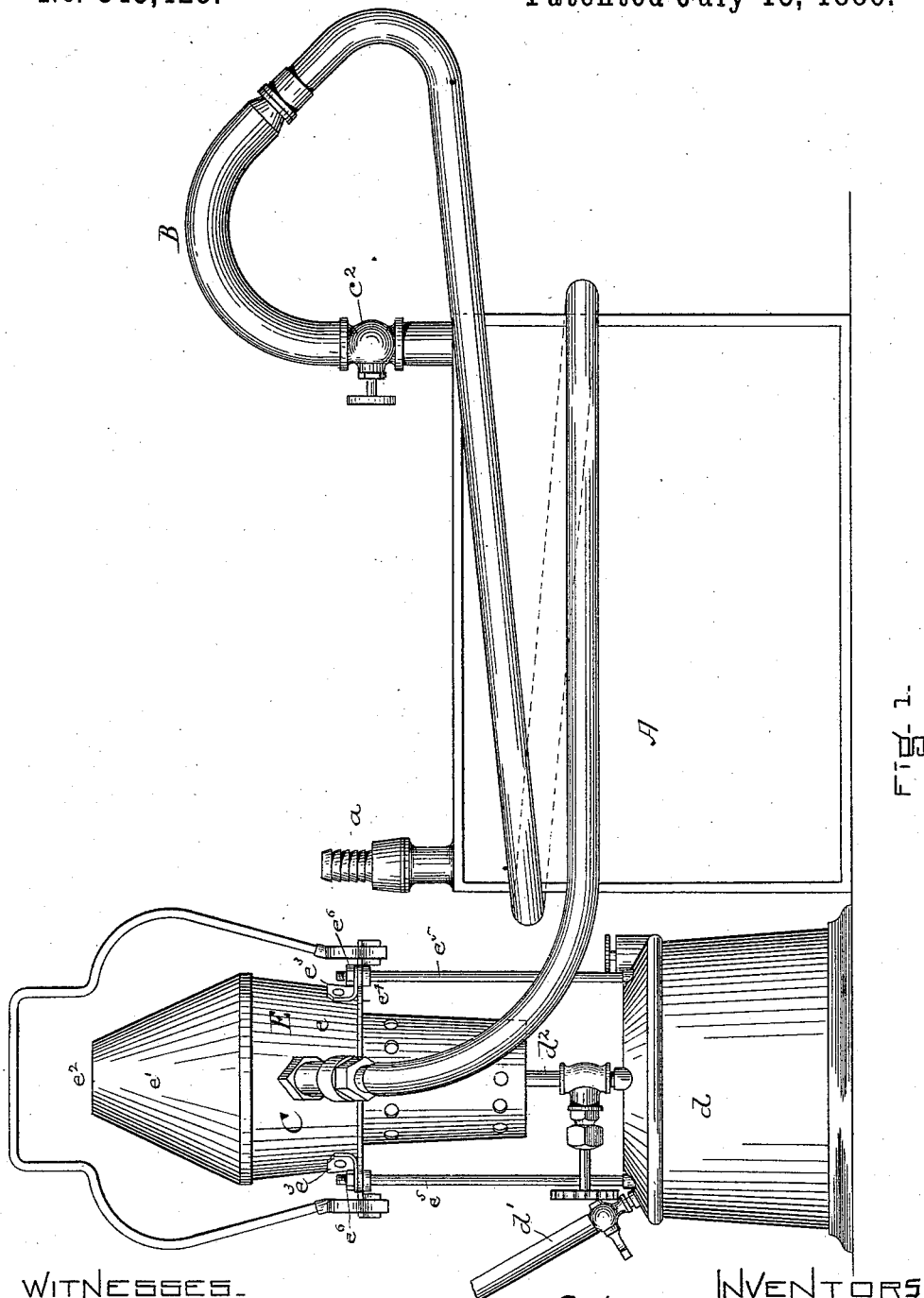
2 Sheets—Sheet 1.

W. H. FISH & E. E. DEAN.

ODORLESS EXCAVATOR.

No. 345,425.

Patented July 13, 1886.



WITNESSES.

J. M. Dolan.
Fred. B. Dolan.

INVENTORS

William H. Fiske
Edgar E. Dean
by their attys
Clark & Raymond.

(No Model.)

2 Sheets—Sheet 2.

W. H. FISH & E. E. DEAN.

ODORLESS EXCAVATOR.

No. 345,425.

Patented July 13, 1886.

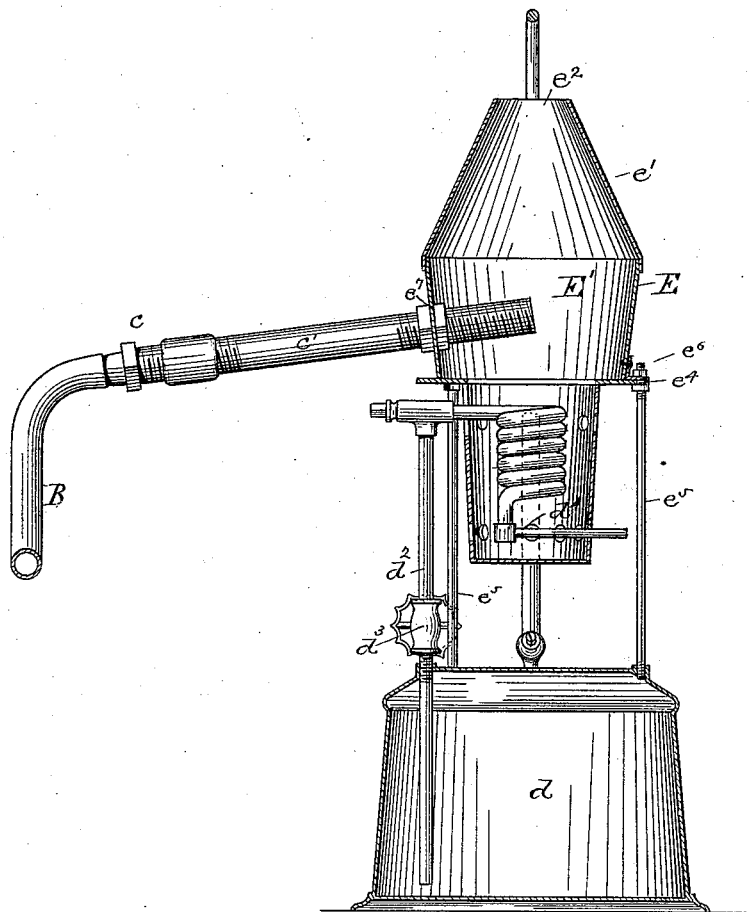


FIG. 2.

WITNESSES.

J. H. Dolan.
Fred. B. Dolan.

INVENTORS

William H. Fish
Edgar E. Dean
by their attys.
Charles T. Raymond.

UNITED STATES PATENT OFFICE.

WILLIAM H. FISH AND EDGAR E. DEAN, OF BROCKTON, MASSACHUSETTS.

ODORLESS EXCAVATOR.

SPECIFICATION forming part of Letters Patent No. 345,425, dated July 13, 1886.

Application filed March 25, 1886. Serial No. 196,510. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. FISH and EDGAR E. DEAN, both of Brockton, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in Odorless Excavators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates especially to means for burning the gases which are expelled from the receiver of an odorless excavator while it is being filled. Heretofore these gases have been passed through a tank or compartment containing disinfecting material, and have been allowed to escape therefrom into the open air. By our invention the receiver is connected either directly with a gas-burning device of peculiar construction, hereinafter specified, or the deodorizing chamber or tank connected therewith, as may be preferred, and the gas from the receiver is forced by the pressure employed in loading or filling it through the connecting-pipes to the gas burning or destroying device. This gas-burning device comprises, preferably, a naphtha-burner surmounted by a casing having a conical top provided with an opening, and the pipe conveying the gas from the receiver opens into this chamber in proximity to the flame, so that the gas is heated and compelled to unite with the flame of the burner, and is thus consumed.

Referring to the drawings, Figure 1 is a side elevation of the device comprising our improvement; and Fig. 2 is a vertical section of the gas burner or consumer, showing in elevation a section of the conducting-pipe.

In the drawings we have represented only the deodorizing chamber or tank, a section of the pipe connecting it with the receiver or reservoir of the excavator, and the burner. A represents this tank. *a* is the pipe or tube through which the gases from the receiver or reservoir of the excavator pass to the tank. B is a pipe or hose connecting the deodorizing-chamber, or it may be the receiver or reservoir of the excavator, with the burner C. This pipe, preferably, is wound in a coil one or two turns about the deodorizing-tank, if desired, and

connected by means of a coupling, *c*, with a pipe, *c'*, of less bore than the said pipe C. This is for the purpose of reducing the pressure of the gases, and so that they shall not enter under too great pressure the burning-chamber of the gas-consumer. The pipe also has a valve, *c''*, for closing the same. The burner has a base-section, *d*, which acts as a reservoir for holding the naphtha or other burning-fluid. It is filled through the passage *d'*. Extending upward from the reservoir is the pipe *d''*, having a controlling-valve, *d'''*, which conveys the naphtha to the naphtha-burner *d''*. This naphtha-burner is surmounted by a casing, E, the lower part, *e*, of which is substantially cylindrical in shape, and the upper part of which is surmounted or covered by a conical section, *e'*, at the top of which is arranged the opening *e''*. This casing has angle-pieces *e'''*, (provided with holes,) by which it is held to the flange *e''* of the burner by the rods *e''''* and nuts *e'''''*, and the burner is suspended above the reservoir by the rods *e''''*. The casing E has a hole, *e'''*, through which the pipe *c'*, connecting the burning-chamber E' with the deodorizing tank or the receiver or reservoir of the excavator, passes. It will be seen that the chamber is of a shape to force or compel the gas to commingle with the flame, as in burning the flame fills the entire opening at the top of the conical section, and the gases from the excavator cannot escape from the chamber in any other way.

In operation the proper connections are made and the burner lighted. The flame fills the chamber and extends upward through the hole *e''*, completely filling the same. This causes the gases escaping from the conducting-pipe to be heated, and ignites them, so that they are consumed as they escape from the outlet of the conducting-pipe, and by compelling the flame to concentrate in a small or comparatively small aperture it is practically impossible for the escape of any unconsumed gases from the burning-chamber.

The advantages of this invention are obvious.

Having thus fully described our invention, we claim and desire to secure by Letters Patent of the United States—

1. The combination of a receiver or reser-

voir of an excavator with a pipe or tube connecting it with a gas-consumer, the said gas-consumer, for burning the gases escaping from the excavator, comprising a burner for burning naphtha or other similar fluid, inclosed in a chamber contracted at the top and provided with a small outlet, whereby the gases from the excavator are brought into contact with the flame of the burner, substantially as described.

2. The combination of a reservoir or receiver of an excavator and connecting pipe or tube, and a burner for assisting in the combustion of gases escaping through said pipe or tube, having a chamber in which the gases commingle with the flame of the burner and are consumed, and means for varying the press-

ure of the gases between the reservoir and the outlet of the tube, and so as to decrease or regulate the pressure at the outlet of the pipe or tube, substantially as described.

3. A burner or gas-consumer for excavators and other like uses, comprising a tank for holding a burning-fluid, a burner, a close chamber about the burner, having a somewhat contracted outlet at the top, and a pipe or inlet through which the gases to be consumed are conducted to the chamber, all substantially as described.

WILLIAM H. FISH.
EDGAR E. DEAN.

Witnesses:

F. F. RAYMOND, 2d.,
FRED. B. DOLAN.