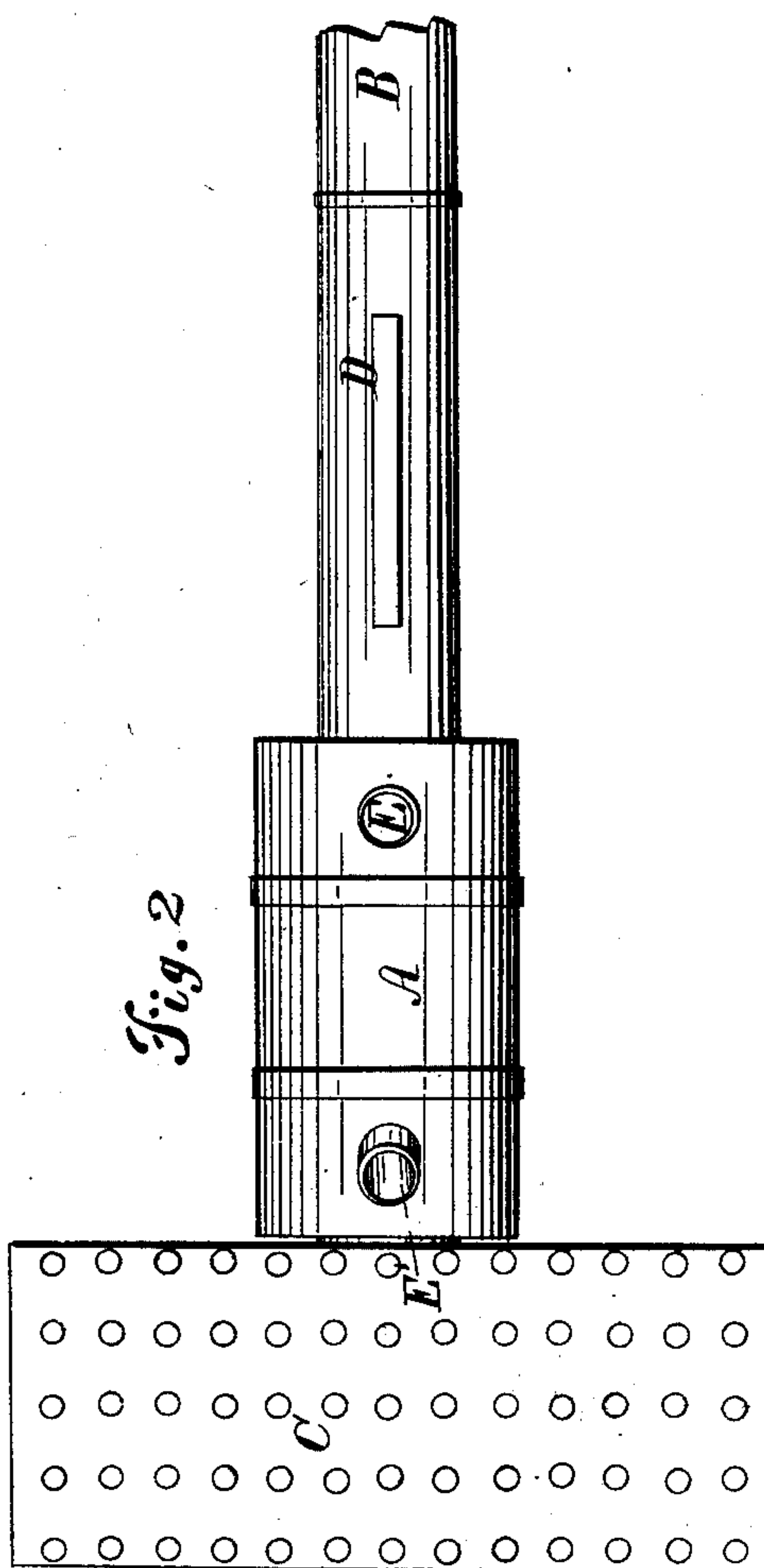
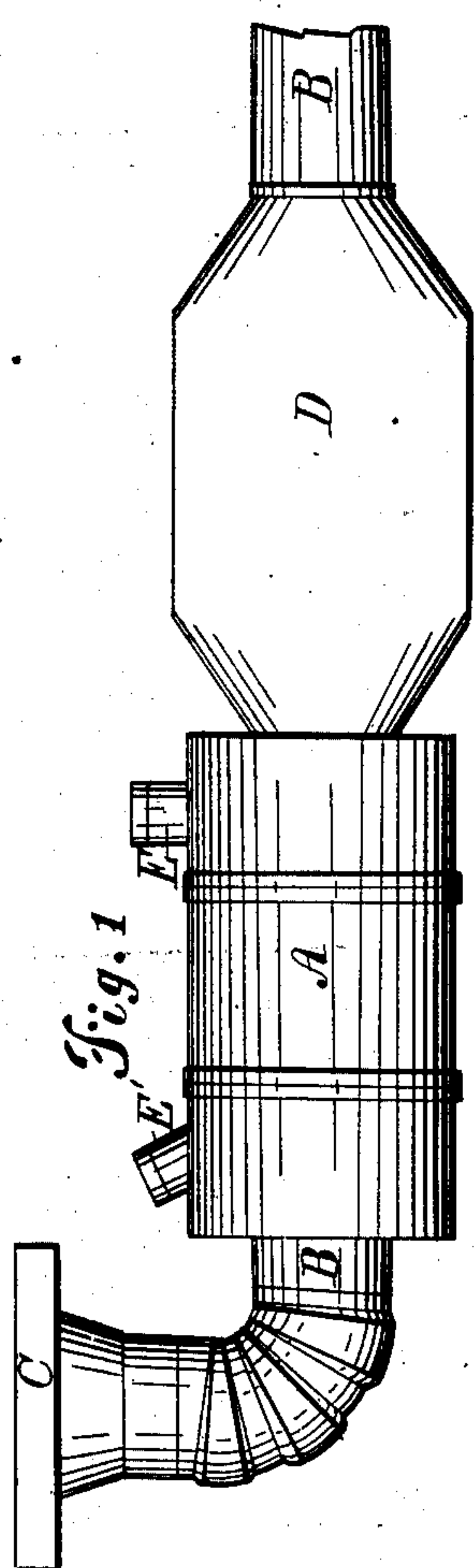


J. W. ADAMS.
Grain Drier.

No. 69,530.

Patented Oct. 8, 1867.



Witnesses:
J. H. Burney
Frank S. Alden

Inventor:
J. W. Adams

United States Patent Office.

J. W. ADAMS, OF ELYRIA, OHIO.

Letters Patent No. 69,530, dated October 8, 1867.

IMPROVEMENT IN GRAIN-DRIERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. W. ADAMS, of Elyria, in the county of Lorain, and State of Ohio, have invented certain new and useful Improvements in an Apparatus for Drying Fruit; Grain, &c.; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of the drier.

Figure 2 is a top view.

Like letters of reference refer to like parts in the views.

This drier consists of a shell, A, fig. 1, through which is projected a pipe, B, the length of which, and that of the shell, being determined by the size of the dry-house and the distance required to conduct the heated air. The turned-up end of the pipe (which, however, may be straight, should circumstances so require) is furnished with a diffuser, C, fig. 2, which is a broad, flat, shallow chamber, the upper side or top being perforated, as shown in fig. 2. The opposite end of the pipe, immediately on leaving the shell, is enlarged and spread out, forming a kind of flattened chamber, D, beyond which the pipe continues of the original size and shape, the length being more or less, as the nature of the circumstances attending its application may determine. This section D of the apparatus is introduced into the fire-box or furnace under the boiler of the steam engine, and forms a lining for the same, it being arranged close to the side, two of which may be used, one on each side of the furnace or fire-box, which, on leaving the furnace, are again united into one pipe, and leads off to the fan-blower or air-pump, from which it receives and conducts the air to the dry-house or other place it may be needed.

By this arrangement it will be obvious that the air, on its passage from the blower to the dry-house, which may or may not be at considerable distance from the building, must first pass through the furnace, in consequence of which it becomes highly heated, and thus it is conducted and diffused throughout the house, among the fruit, grain, or lumber which may have been placed in it for drying.

Should it be required to conduct the heated air to a considerable distance, and out of doors, to the house, the heat of the air is preserved by the shell, which encloses the pipe its entire length. Into this shell is conducted the exhaust steam of the engine, through the pipe E, and from which it escapes, after passing the length of the shell, through the pipe E'. Thus the exhaust steam is made to surround the pipe B, and the heated air therein kept from cooling before reaching the dry-house.

It will be obvious that by thus protecting the air pipe by means of the steam all possible danger is prevented from fire, and hence gives great security to the house, which, heated in the ordinary way, with stoves and furnaces, often takes fire and burns down. By this arrangement the dry-house may be close to the building, or a room prepared within it, and the heated air conducted to it with perfect safety.

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

The chamber D, pipe B, and diffuser C, arranged in combination with the shell A, for the purpose and in the manner substantially as set forth.

J. W. ADAMS.

Witnesses:

W. H. BURRIDGE,

J. HOLMES.