

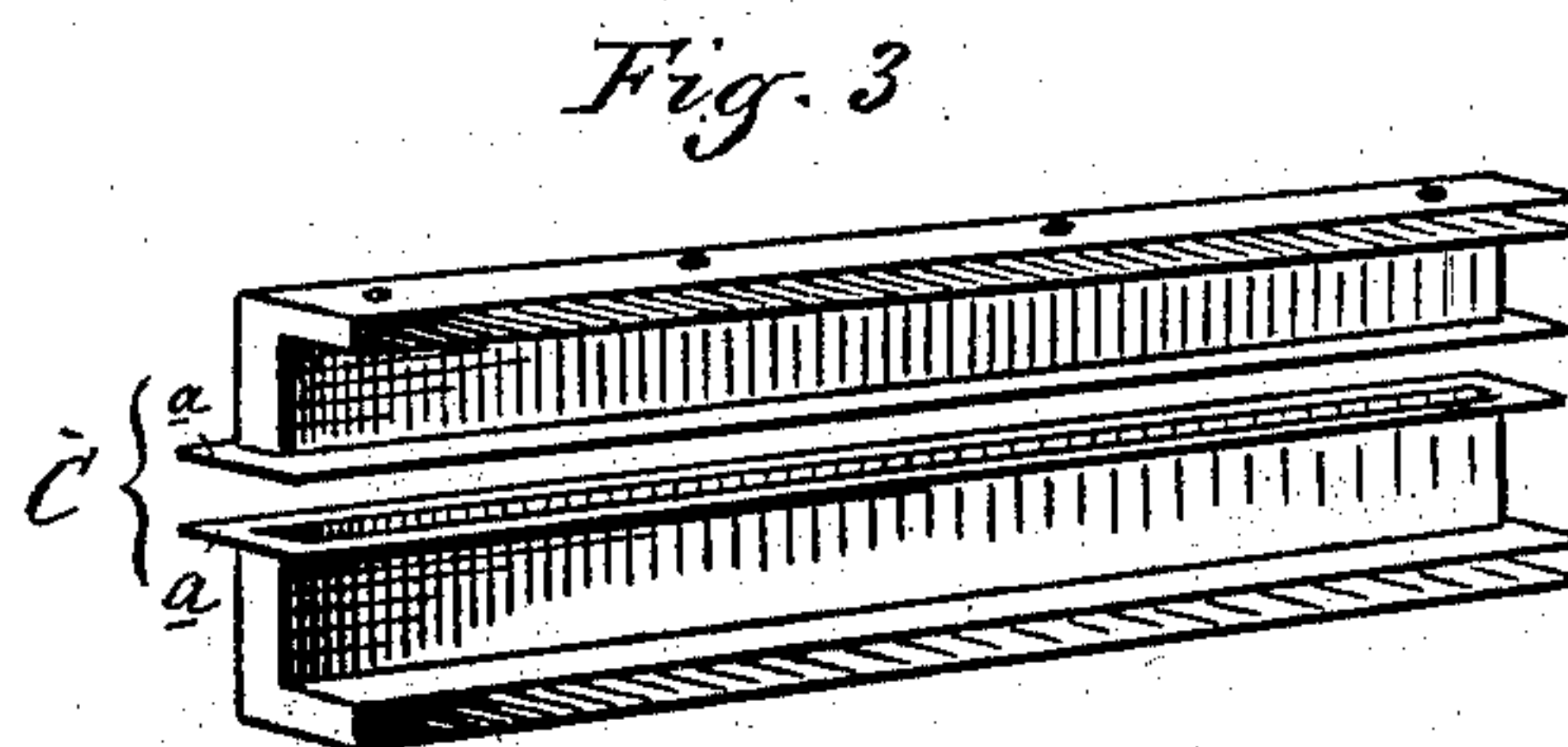
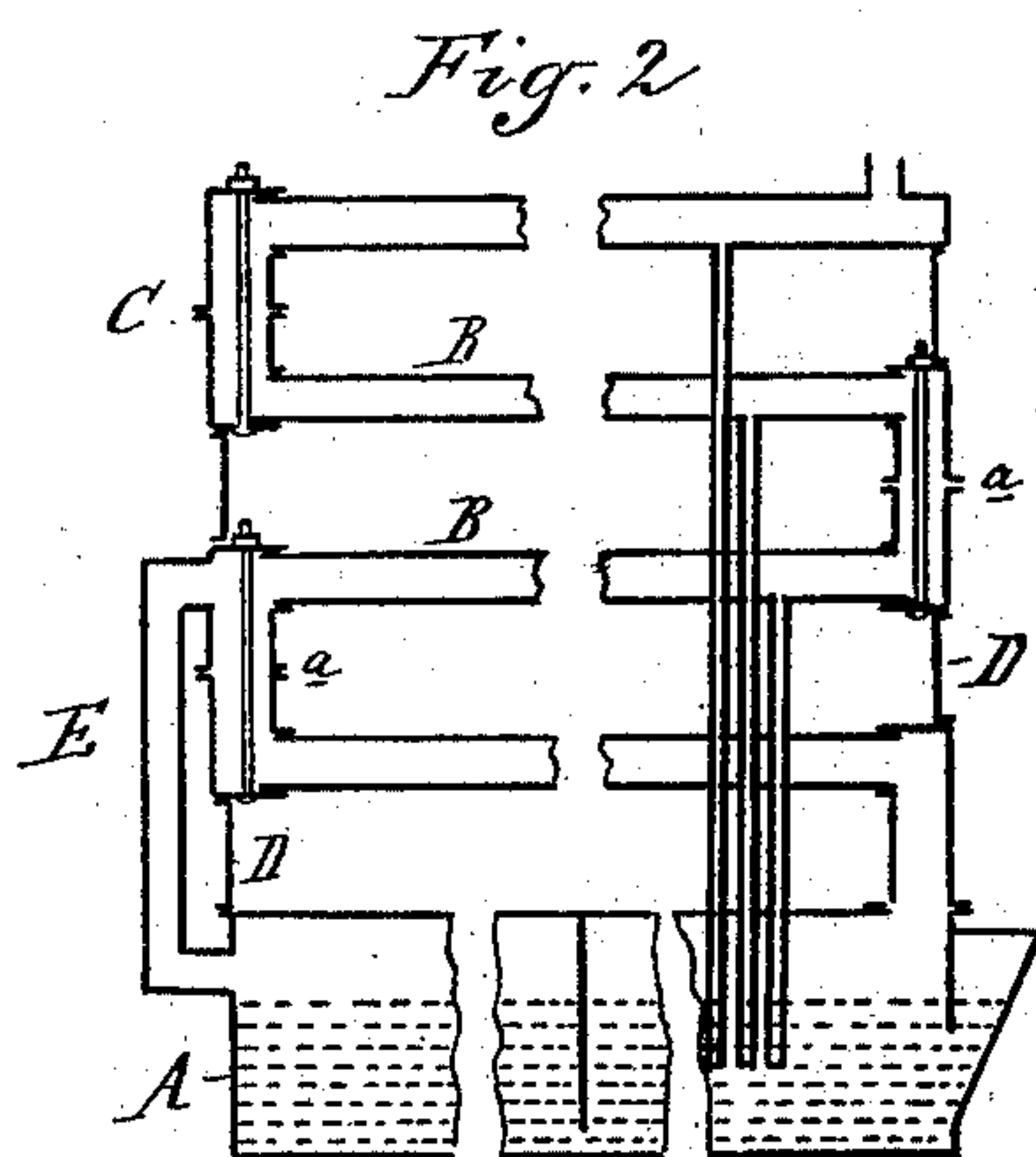
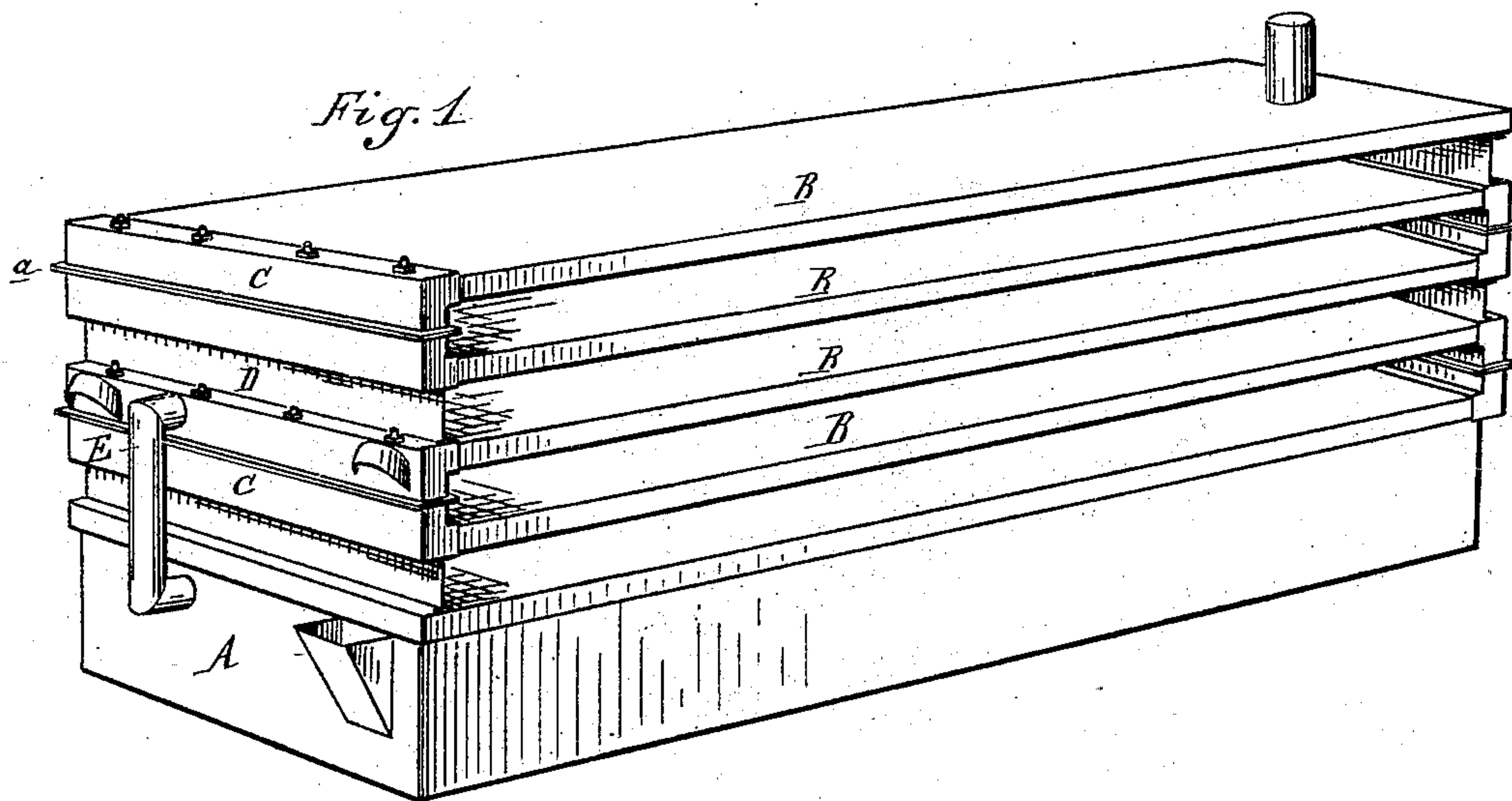
(No Model.)

J. M. TEASDALE.

FRUIT DRIER.

No. 257,409.

Patented May 2, 1882.



Attest:
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UNITED STATES PATENT OFFICE.

JAMES M. TEASDALE, OF HOWELL, ASSIGNOR TO THE STEAM HEAT
EVAPORATOR COMPANY, OF CHARLOTTE, MICHIGAN.

FRUIT-DRIER.

SPECIFICATION forming part of Letters Patent No. 257,409, dated May 2, 1882.

Application filed November 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. TEASDALE, of Howell, in the county of Livingston and State of Michigan, have invented an Improvement in Fruit-Driers, of which the following is a specification.

The nature of this invention relates to certain new and useful improvements in the construction of fruit-driers wherein the trays which contain the fruit are placed between flues through which steam passes, such flues being situated one above the other. The heat radiating is designed to evaporate the moisture which the fruit so exposed contains; and it is especially designed as an improvement upon Letters Patent granted to me for the same purpose October 26, 1880.

The invention consists in the peculiar construction of the flue ends through which communication is provided for the passage of steam from one flue to another, and whereby the same can be shipped from the factory in the "knock-down" condition and be readily put together or put up at the place where it is designed to operate the same, all as more fully hereinafter set forth.

Figure 1 is a perspective view of my improved fruit-drier. Fig. 2 is a vertical longitudinal section through the same, and Fig. 3 is a perspective of one of the section ends detached and separated.

In the accompanying drawings, which form a part of this specification, A represents a suitable steam-generator, which may be provided with a furnace beneath it, or it may be designed, when built in the smaller sizes, principally to rest upon the top of an ordinary stove, the function of said generator being merely to generate steam for supplying the series of flues which surmount it, for the purpose hereinafter set forth; and as such furnace forms no part of my invention, I will confine myself exclusively to describing the construction of my evaporator.

B represents a series of flues, substantially as shown, the alternate ends of which are connected together, adjustably or otherwise, by an end flue, C, which will admit of steam passing from one flue to the other, as in a vertical

coil, while the opposite alternate ends of these flues in the series are supported by a proper wall, D.

In the construction of driers designed for family use this device may be constructed substantially in the manner as described in my aforementioned Letters Patent; but where the same are designed for use in factories upon a larger scale it has been found expensive in point of transportation in manufacturing and shipping them in their whole state ready for operation. Hence the object I have in view is to so construct the device that it may be built in section at the factory and shipped in a knocked-down state to the point where it is designed operating it, and where it may readily and easily be set up; and to this end I construct the end flues, C, in sections—that is, they are centrally longitudinally divided and provided with flanges *a*. Each one of these sections is then rigidly secured to the open end of the flue B, or such end may be constructed so as to form an integral part of such flue, and when the device is set up the flanges *a* of the ends C come coincident to each other, having a rubber or other gasket placed between them, and are securely bolted together by means of bolts *b*, thus forming a continuous steam-passage from the lower to the upper flue in the chamber.

If desired, one end of the evaporating pan may be constructed deeper than the opposite end, so that dry hot steam will pass to the system of flues, which construction would naturally cause said flues to dip in a direction toward the shallow end of the generator, and these lower ends of the flues in the series may, if desired, be provided with drip-pipes separately or to discharge any one common pipe which shall convey the water of condensation in the flues back to the generator below the water-line.

In Fig. 2 are shown separate drip-pipes, which preferably should be connected to the flues from the outside. While I show the end flues as made in only two sections, it may be advisable, particularly in large driers, to have these sections provided with detachable ends.

Where a considerable number of flues are

employed it may be found advantageous to supply a separate steam-pipe, E, which shall deliver steam from the generator into one of the end sections at or about half the height of the
5 device for the purpose of supplying fresh live steam to commingle at that point with the steam which has already passed through the coils beneath, thus enhancing the evaporating capacity of the upper flues; and such
10 pipe, for the matter of convenience in illustrating, I represent as applied to a device wherein are employed but four flues above the generator.

The fruit to be dried is placed upon suitable
15 drawers, (not shown,) which are placed between and upon the series of flues, the heat which is radiated from such flues evaporating the moisture contained in the fruit and discharging the same at the open sides, as in the
20 ordinary manner.

While I show and describe a steam-generator situated beneath the series of flues, I do not wish to confine myself to its use, as in many instances steam may be applied to the
25 device from a steam-generator which supplies steam for other manufacturing purposes.

What I claim as my invention is—

1. In a fruit-drier, and in combination with the main flues thereof, end flues made in sections detachable from each other and adapted
30 to receive the ends of the main flues, substantially as and for the purpose specified.

2. In a fruit-drier, and in combination with the series of steam-flues B, the end flues, C, provided with the flanges *a* and designed to
35 be secured together to form a steam-connection between two adjacent flues B, substantially as and for the purposes specified.

3. In a fruit-drier, and in combination with the end flues, C, and generator A, the flues B,
40 provided with drip-pipes for the purpose of conveying the water of condensation back to the generator from said flues B, substantially as described.

4. In a fruit-drier, and in combination with
45 the detachable end flues or sections, C, the main flues B and the walls D, as and for the purpose specified.

JAMES M. TEASDALE.

Witnesses:

CHAS. J. HUNT,
H. S. SPRAGUE.