

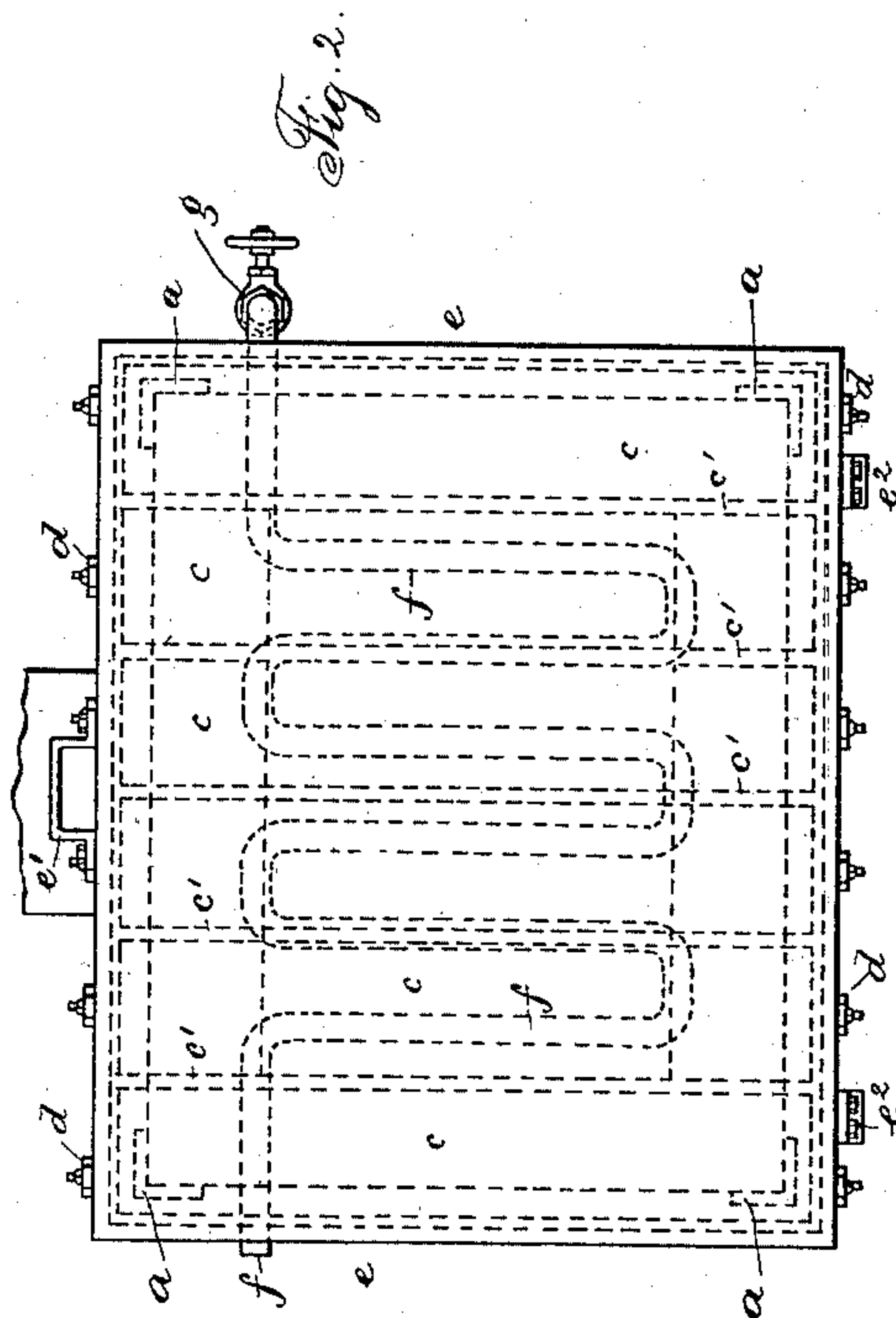
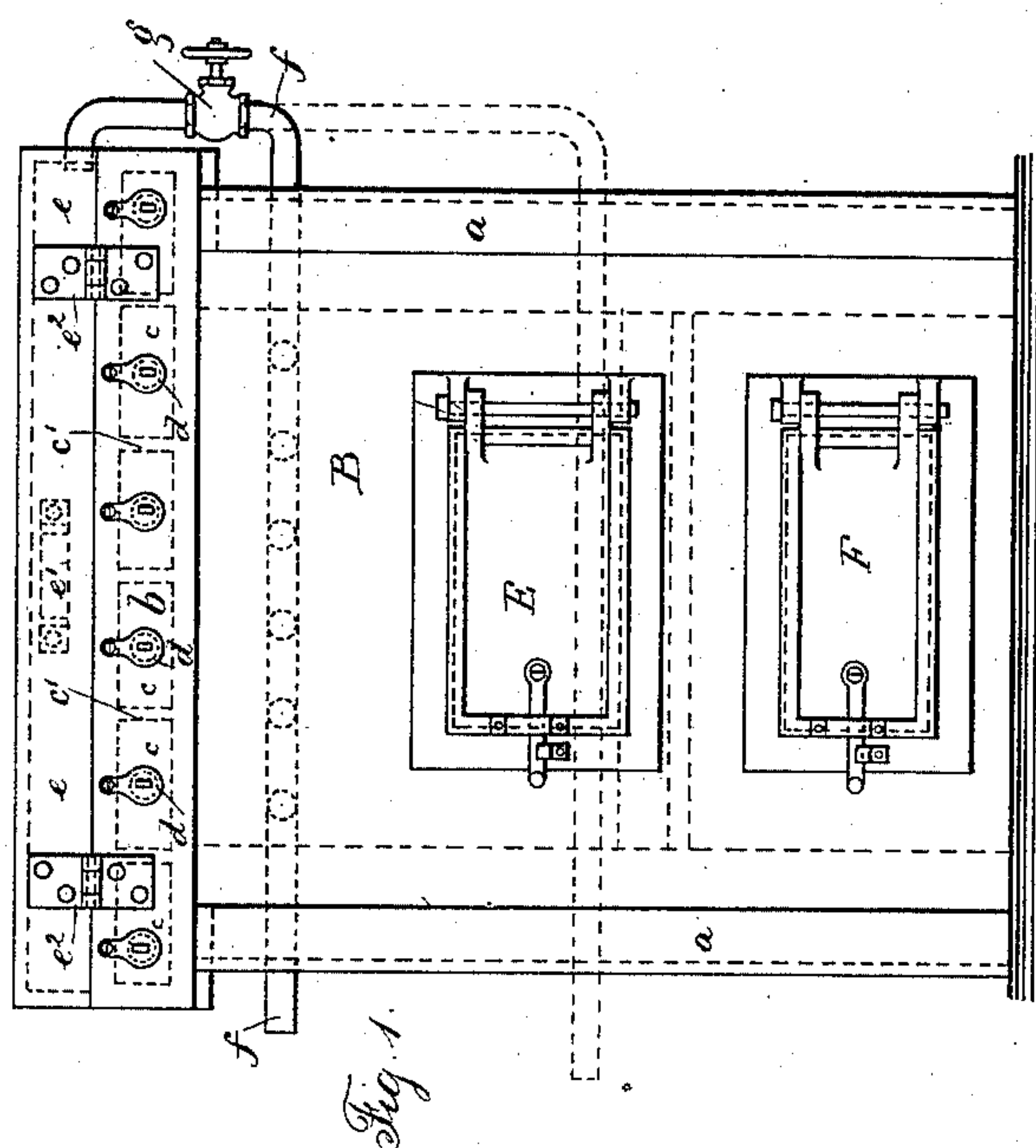
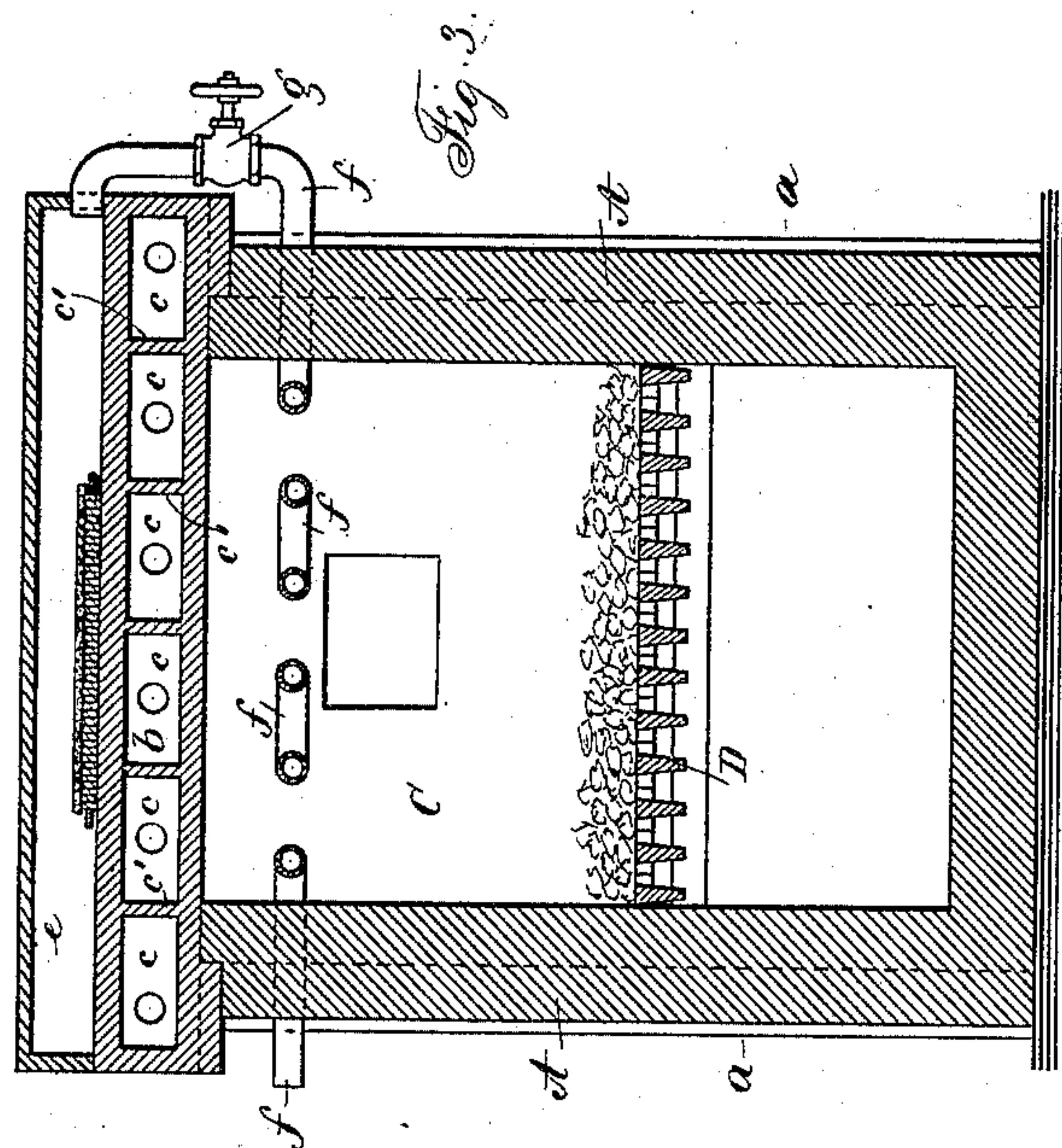
(No Model.)

J. BROOKS.

APPARATUS FOR DRYING PAPER MATRICES.

No. 330,091.

Patented Nov. 10, 1885.



Witnesses:  
J. Staib  
Chas. N. Smith

Inventor  
John Brooks  
per Lemuel W. Serrell  
Att'y



# UNITED STATES PATENT OFFICE.

JOHN BROOKS, OF PLAINFIELD, NEW JERSEY.

## APPARATUS FOR DRYING PAPER MATRICES.

SPECIFICATION forming part of Letters Patent No. 330,091, dated November 10, 1885.

Application filed June 27, 1885. Serial No. 169,922. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN BROOKS, of Plainfield, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Apparatus for Drying Paper Matrices, and the following is declared to be a description of the same.

After forming a paper matrix in the usual manner, by pressing the wet paper sheet into the type-form with brushes, it is customary to dry said matrix by heat in an apparatus especially prepared therefor. This apparatus is heated by steam to dry the matrix, and pressure is employed to keep the matrix from buckling. In the aforesaid apparatus difficulty arises in regulating the temperature so as to dry the matrix as quickly as possible without injury either to the matrix or to the type.

My invention relates to an apparatus in which the heat acts against the under side of a hollow shell upon the upper side of which the type-form and matrix are placed, and I provide a hinged cover upon said shell to inclose the chamber containing the form and matrix, and a range of pipes passing through the furnace, with one end of said pipes entering within the cover, and the other end is connected to a blower of ordinary construction. Air from the blower is forced through the range of pipes in the furnace, and heated before passing into the chamber containing the matrix. This highly-heated air coming in contact with the matrix assists in rapidly drying the same. If the shell and its chamber above the furnace become too hot, they are cooled by opening doors or covers that give access for the atmosphere to pass in and the heated air to escape, so as to easily regulate the heat applied to the form and matrix.

In the drawings, Figure 1 is an elevation of the apparatus. Fig. 2 is a plan of the same, and Fig. 3 is a vertical cross-section.

The furnace may be of any ordinary construction. It is shown as composed of the side walls, A, front wall, B, back wall, C, grate-bars D, coal-door E, and ash-door F. The furnace-walls may be of brick, and I prefer to use iron corner bars or posts *a*, and upon said corner-posts and the wall of the furnace I

place the metal shell *b*, composed of an upper and lower plate, with intermediate plates to separate the space into chambers at *c*. This shell forms the top of the furnace, and there may be any number of these partitions *c'* and chambers *c*. At the ends of the chambers *c* there are openings in the shell *b*, and I provide covers *d* upon the outside of the shell, with rings or projections to be grasped in opening them, so as to allow the heated air to escape if the shell become too hot. Connected to said shell *b* there is a hinged cover, *e*, and said cover is formed with a rim, and it can be lifted by the handle *e'*, or by other convenient means, the hinges *e''* forming the pivot. The pipe *f* is connected at one end to an ordinary blower, and it passes into the furnace and back and forth in a range over or through the fire and out of the furnace, and it is turned up and over the shell *b* and into the space formed under the cover. The type-form and paper matrix to be dried are placed upon the shell *b* beneath the cover *e*, and the cover closed. The heat of the furnace acts upon the under side of the shell *b*, heating it and the air contained within the chambers *c*, and this heat is communicated to the type upon the shell and the paper matrix. The air forced through the range of pipes *f* is highly heated, and the supply discharged into the space beneath the cover *e* is controlled by a valve, *g*, and it assists in drying the matrix. The matrix may be prevented from buckling by weights, or in any desired manner. The shell *b* and cover *e* can be large enough to hold several type-forms and their matrix to be dried, and the advantage of this improved apparatus is that the furnace can be kept constantly heated at a comparatively small expense, and be always ready to do its work in a quick and thorough manner.

I claim as my invention—

1. The combination, with the walls, grate-bars, and doors composing a furnace, of a shell, *b*, having top and bottom plates, and partitions *c'*, that separate the space into chambers within said shell, the covers *d*, over the openings to said chambers, a hinged cover, *e*, and rim connected to and resting upon said shell, the pipe *f*, passing in a range through

said furnace for discharging heated air beneath the cover, and a valve in said pipe *f*, substantially as set forth.

2. The combination, with the furnace, of a  
5 shell above said furnace, composed of top and bottom plates, with intermediate plates to form chambers for heated air, a cover to said shell, adapted to inclose the type-form and paper

matrix, and a pipe for supplying heated air beneath the cover, substantially as set forth. 10

Signed by me this 20th day of June, A. D.  
1885.

JOHN BROOKS.

Witnesses:

GEO. T. PINCKNEY,

WALLACE L. SERRELL.