

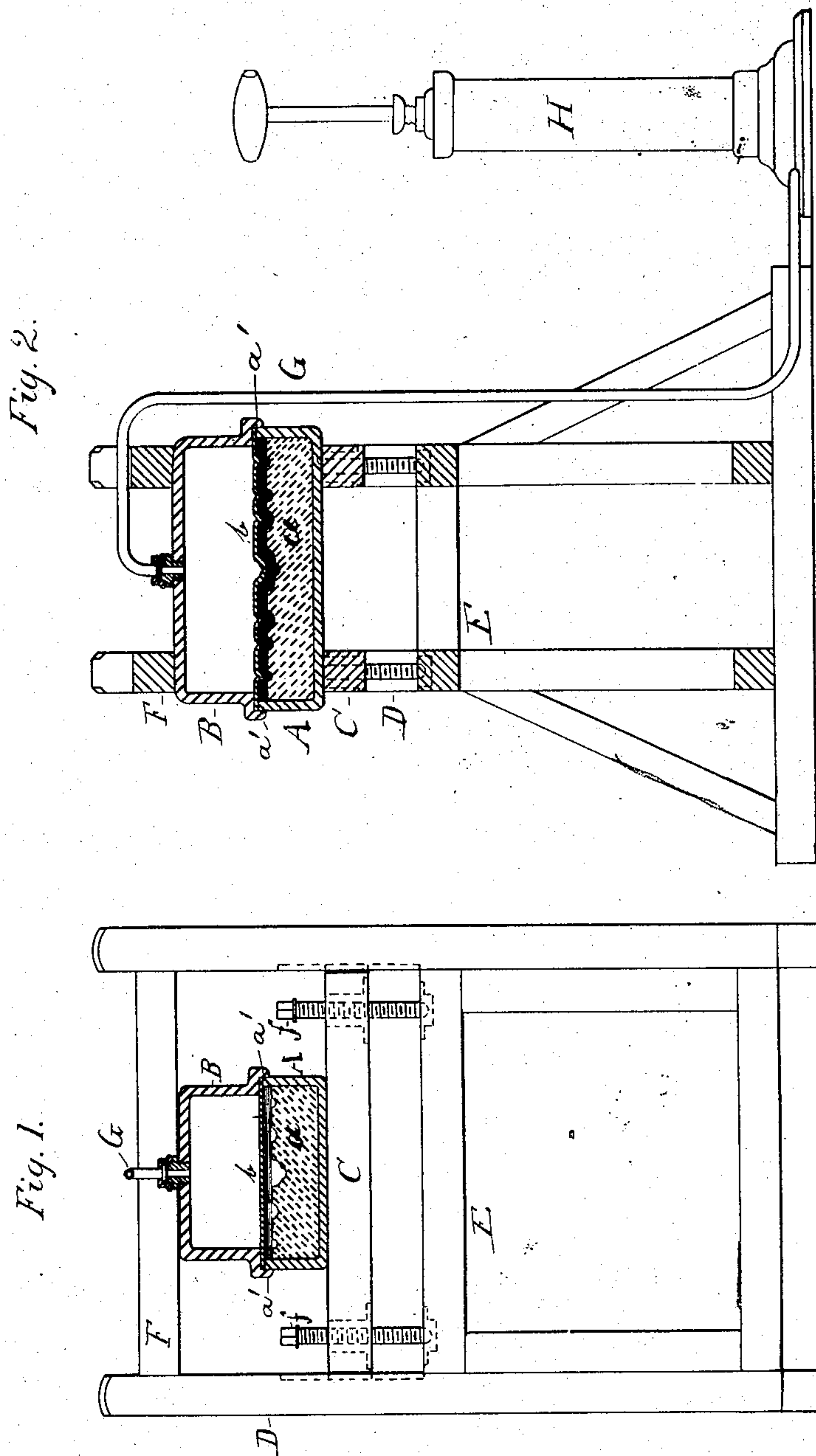
(No Model.)

J. FRIED.

METHOD OF PRODUCING PAPER ORNAMENTS.

No. 286,693.

Patented Oct. 16, 1883.



WITNESSES:

Adams pro: white
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INVENTOR

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UNITED STATES PATENT OFFICE.

JOSEPH FRIED, OF CHICAGO, ILLINOIS.

METHOD OF PRODUCING PAPER ORNAMENTS.

SPECIFICATION forming part of Letters Patent No. 286,693, dated October 16, 1883.

Application filed March 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH FRIED, of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful
5 Improvement in Method of Producing Paper Ornaments; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference
10 marked thereon, which form a part of this specification.

This invention relates to methods of forming basso or alto relieve ornaments—such as friezes or arabesques—for inside decorations
15 of houses or picture and mirror frames; and it has for its object to produce a device for forming such ornaments out of paper to be very light, strong, and durable, and to be gotten up of any design in the most simple manner.
20 Therefore my invention consists of the device hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a sectional front elevation, and Fig. 2 a vertical cross-section, of the apparatus employed by me for producing these ornaments.
25 Corresponding letters in the several figures of the drawings designate like parts.

A denotes an iron frame or box, that is filled with plaster-paris *a*, and has its upper surface engraved or carved to form the mold or die for the ornament.
30

B is another box placed on top of mold *a*, and having secured to its under flanges, *a'*, the edges of a hermetic diaphragm, *b*, of sheet-rubber.
35

The mold A is placed upon two longitudinal timbers, C, that, with their tenoned ends, are guided in vertical grooves cut into posts D, secured against the ends of a frame, E, and
40 connected on top by cross-timbers F. The boxes A and B are pressed between the timbers C and F by screws *f*, which are tapped through nuts inserted into timbers C, and rest with their points on plates let into the
45 upper beams of frame E. To an opening in top of box B is hermetically secured a rubber hose or flexible pipe, G, by a suitable coupling, which hose or pipe G at its opposite end is connected to an air-pump, H. The surface
50 of the plaster-paris *a* being engraved or cast over a pattern to form the die for the orna-

ment, about four sheets of damp Manila or other paper or board are coated with a paste and are laid on top of such mold *a*. Next, the box B is placed over the mold, and is secured
55 by turning the screws *f* until such mold is pressed under the flanges of box B, with the sheet-rubber covering such paper, as shown in Fig. 1. Now, by pumping air into box B the sheet-rubber is expanded and will force
60 the paper into every cavity of the mold, as shown in Fig. 2. The pressure of air necessary may vary from ten to one hundred pounds to the square inch, according to the intricateness of the figures to be formed. After being
65 thus compressed the air is exhausted from the box B, the mold A is taken out, and another placed in the press to go through the same process. The paper, after becoming thoroughly dry, is removed from the mold, when the blank
70 portions may be cut out, and the ornament is ready for painting or gilding.

By this method only a single mold is necessary, the flexible and elastic diaphragm accommodating itself to any shape and recess of
75 the mold forming the other or upper half of the mold, while the compressed air will cause a uniform pressure of such diaphragm upon every portion of the paper, and will thus form the ornaments with sharp corners and distinct
80 lines, no matter what shapes or sizes are to be carried out, or whether the edges of the ornaments are perpendicular or tapering either way.

Paper ornaments thus made are very light,
85 strong, and durable, and can be easily secured with glue or nails to the walls or ceilings, and, being elastic to a certain degree, they will accommodate themselves to any unevenness of the surfaces to be fastened to.
90

The general construction and arrangement of mold A *a* and air-box B with diaphragm *b* may be varied to suit different articles and shapes to be produced, and the frame may be constructed in any suitable manner that will
95 answer the desired purposes of holding the mold to box B while the air in such box is compressed, without deviating from my invention.

Instead of paper, any other suitable light
100 material may be used for forming the ornaments, and water or any other liquid or gase-

ous matter may be pumped into box B in place of atmospheric air without changing the result.

I am aware that an apparatus has been constructed for forming pails and other articles out of paper-pulp, wherein the pulp is pressed into form against a wire former by means of an elastic bag or smoother operated by atmospheric pressure produced, and such I do not claim. I am not, however, aware of any apparatus other than that herein described for forming ornamental articles, having a mold or die supported upon a framing and adapted to move vertically thereon, a rigid hollow box connected with a force-pump, and a rubber diaphragm extending horizontally across the face of the mold or die and clamped between the meeting edges of said die and hollow box.

What I claim is—

1. The combination of the mold or die A *a*, hollow box B, having flanges *a'*, and connected at its upper part with a force-pump, and the

rubber diaphragm *b*, secured within said flanges *a'*, substantially as and for the purpose set forth.

2. The combination of box A, having filling *a*, of plaster-of-paris, having a suitable design formed on its upper face, the hollow box B, adapted to rest upon the box A, and having flanges *a'*, the rubber diaphragm *b*, secured within the flanges *a'*, and a suitable force-pump connected to said box B, substantially as and for the purpose set forth.

3. The combination of die A *a*, box B, timbers CEF, vertical grooved posts D, and screws *f*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JOSEPH FRIED.

Witnesses:

ADAM GEO. WHITE,
LOUIS NOLTING.