

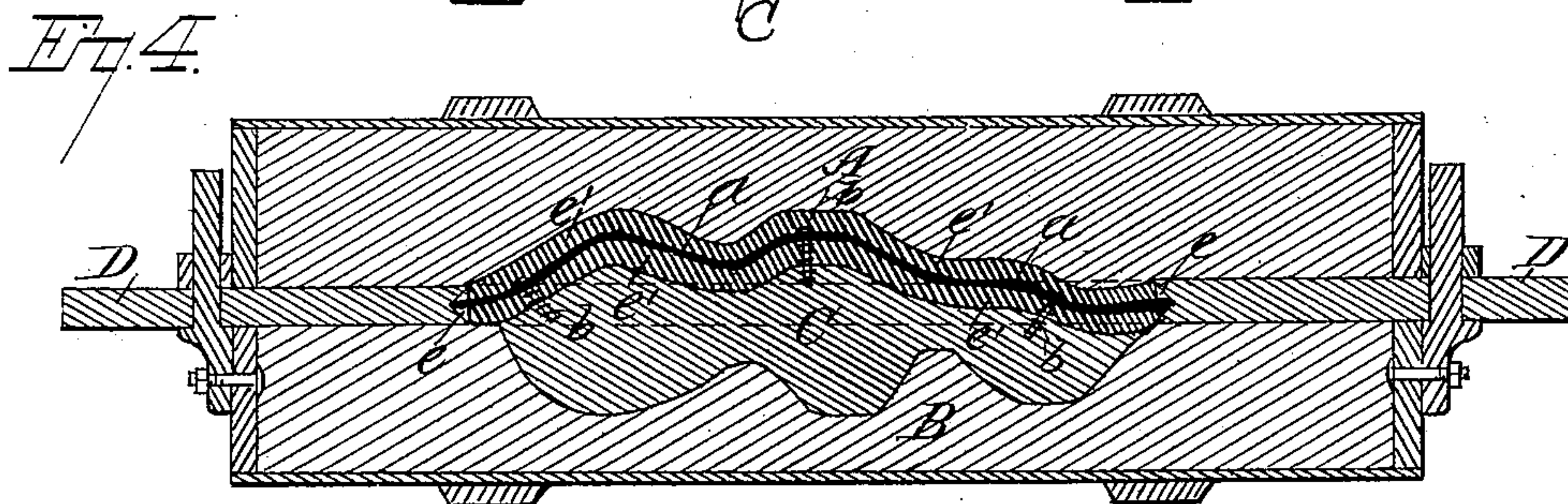
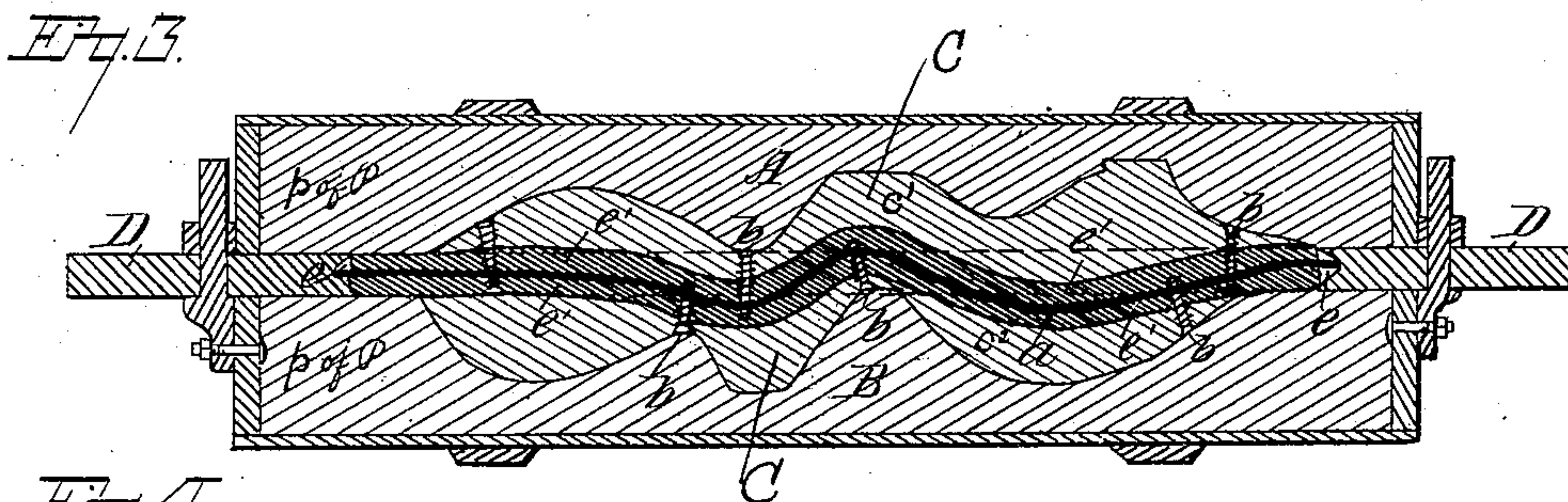
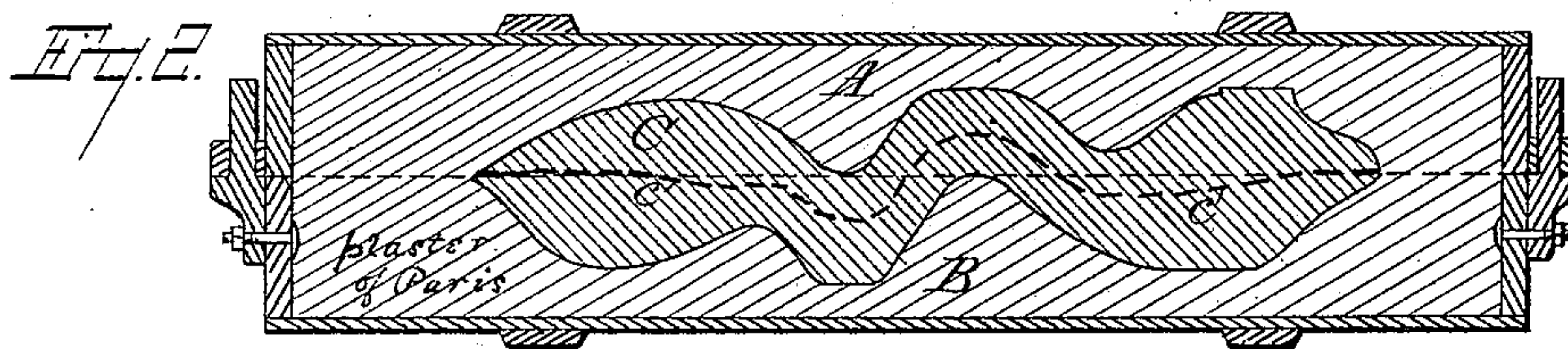
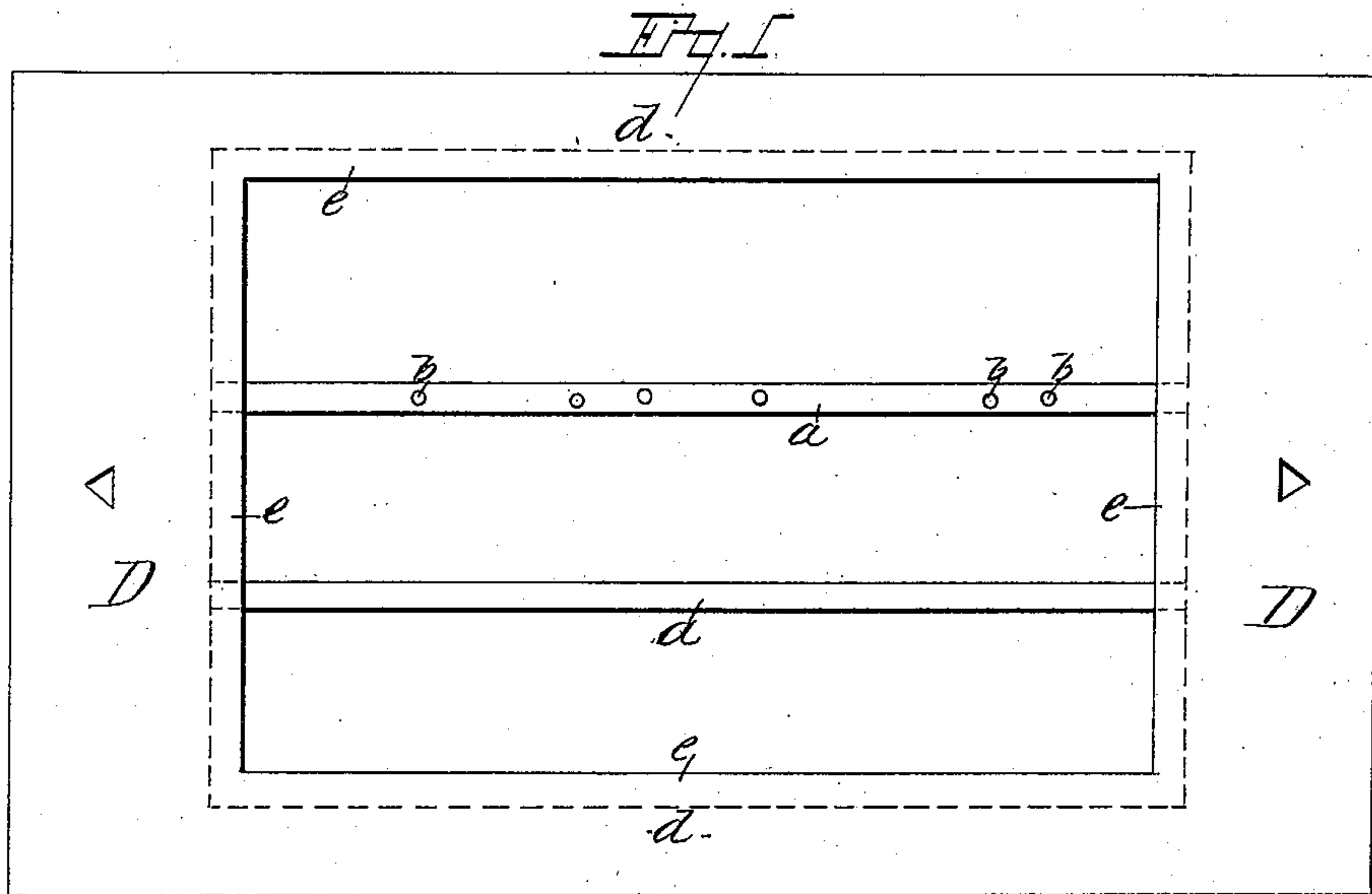
(No Model.)

J. R. DAVIES.

PATTERN PLATE FOR MOLDERS.

No. 334,753.

Patented Jan. 26, 1886.



Witnesses:

E. G. Jones  
M. N. Kaimheimer

Inventor:

John R. Davies  
By  
J. H. Stout & Underwood  
Attorneys.



# UNITED STATES PATENT OFFICE.

JOHN R. DAVIES, OF WHITEWATER, WISCONSIN.

## PATTERN-PLATE FOR MOLDERS.

SPECIFICATION forming part of Letters Patent No. 334,753, dated January 26, 1886.

Application filed December 1, 1883. Serial No. 113,298. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN R. DAVIES, of Whitewater, in the county of Walworth, and in the State of Wisconsin, have invented certain new and useful Improvements in Apparatus for Casting with Match-Plates; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to match-plates for molders' flasks, and will be fully described hereinafter.

In the drawings, Figure 1 is a plan view of my improved match-plate in its frame. Figs. 2 and 3 are sectional views of a flask, illustrating the matching of a pattern divided in halves; and Fig. 4 is a sectional view of the same, showing the application of the match-plate to an undivided pattern of irregular face.

A is the upper part or cope of the flask, and B the lower part or drag of said flask.

C is the pattern, and *c c* its division or parting line.

D is the marginal frame of the match-plate.

It is made of iron or steel, and is designed to properly support said match-plate, which I construct of vulcanized rubber, plastic, or alloy. The sides *d d* of said marginal frame are provided along their inner edge with the beveled notch *e*, or corrugations, wherein the material used in the construction of the match-plate is embedded and securely maintained.

*a a* are metallic bars, suitably fastened on the notched or corrugated edges *e e* of the marginal frame D. Said bars *a* are either straight or curved, to conform to the variations of the parting-line or the upper irregular face of the pattern C. When said marginal frame D is used for matching halved patterns, as in Figs. 2 and 3, said bars *a* serve to support the halves of said pattern C by means of the screws *b b*, a space, *e'*, being left between said bars and the pattern equal to half of the depth given to the match-plate, less half the thickness of the bar itself, and said space *e'* is filled with vulcanized rubber, plastic, or alloy, selected for said match-plate.

The operation of matching this class of patterns is as follows: Either half of the pattern C having been molded of prepared plaster-of-paris, the other half is molded in its turn. The two parts of the flask being then separated, the marginal frame D is set in its place between the cope and the drag, the pattern C

being duly fastened by the screws *b b* to the bars *a a*. The two parts of the flask are then secured together by their guiding-pins, and the rubber or other plastic material or composition is applied by pouring through suitable sprue-holes to fill the space around and between the pattern-halves *C C'*, and the filling being vulcanized, the match-plate is ready for use. This method can be applied so that the pattern C itself is formed of vulcanized rubber, as well as the match-plate.

In the case of an undivided pattern having an irregular upper surface, the operation of matching differs from the one above described, and is as follows: The patterns are first placed in the lower part or drag of the flask, as when prepared for casting. Said drag is then filled with plaster-of-paris, the cover secured with bolts over said drag, which is then turned over. The surface is dressed carefully to the parting-line of the pattern or patterns, (as there may be many pieces in the flask.) This surface is then oiled, to prevent sticking, and the other part or cope is put on and filled with plaster. After this has had time to properly harden, and the cover having been secured on top of the cope, the two parts are separated. The patterns, which are left in the lower part or drag while the impression of their upper face has been molded in the cope, are then treated as when preparing for casting, the gates or runners being cut in the plaster the same as in sand; but the patterns are left in the drag part of the flasks, and the marginal frame D is put in place on the drag, with the bars *a a* shaped to accommodate the upper surface of the patterns, in which the screws are then turned in place. As in the first case, a space, *e'*, is left between the bars and the pattern equal to half the thickness of the match-plate, less half the depth of the bar *a*. A similar space will of course be left between the bars *a* and the upper surface, so that the bars will be covered on both sides with rubber in the act of forming the plate. The drag is now ready to receive the plastic rubber, a sufficient quantity of which is spread all over the surface of the drag or lower part of said flask to fill the space corresponding to the thickness of the marginal frame. The upper part or the cope is then put on, being accurately guided into place by the guide-pins. The two parts of the flask are pressed together sufficiently to force the rubber into all the irregularities of



both the upper surface of the pattern and the lower surface of the cope, thereby producing a perfect impression of both. The two parts of the flask being then firmly secured together  
5 by any suitable means, the vulcanizing process is applied in the usual manner, thus forming a match-plate that embodies with it the pattern or patterns.

Having thus described my invention, what I  
10 claim as new, and desire to secure by Letters Patent, is—

1. The marginal frame D, having notches or corrugations *e e*, fastening-bars *a a*, and screws *b b*, in combination with the rubber  
15 filling *e' e'*, the pattern-halves C C', and the cope A and drag B of the flask, substantially as shown and described, and for the purpose set forth.

2. In combination, the marginal frame D,  
20 having notches or corrugations *e e* and fastening-bars *a a*, as set forth.

3. The combination of the marginal frame D, having notches or corrugations *e e*, the fastening-bars *a a*, and the rubber filling molded around and secured to said bars *a a*, as set  
25 forth.

4. The marginal frame D, having notches or corrugations *e e*, bars *a a*, and screws *b b*, in combination with the filling *e' e'*, the undivided pattern C', and the cope A and drag B  
30 of the flask, substantially as shown and described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Whitewater, in the county of Walworth and State of Wisconsin,  
35 in the presence of two witnesses.

JOHN R. DAVIES.

Witnesses:

JNO. W. STEELE,  
T. D. WEEKS.