

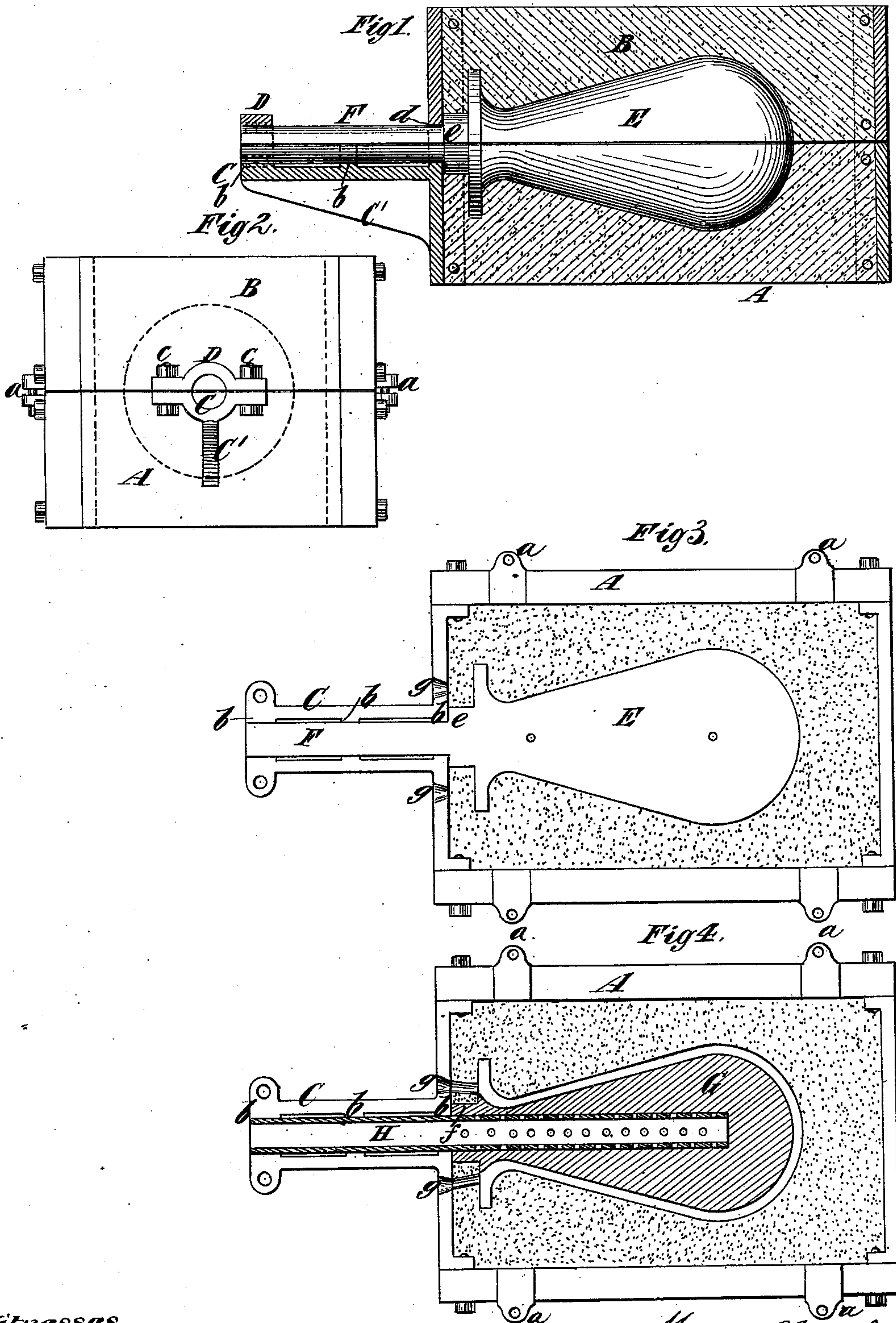
(No Model.)

W. SMITH.

Mold for Casting Air Chambers.

No. 235,305.

Patented Dec. 7, 1880.



Witnesses
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UNITED STATES PATENT OFFICE.

WALTER SMITH, OF BROOKLYN, NEW YORK, ASSIGNOR TO J. S. AND G. F. SIMPSON, OF SAME PLACE.

MOLD FOR CASTING AIR-CHAMBERS.

SPECIFICATION forming part of Letters Patent No. 235,305, dated December 7, 1880.

Application filed August 28, 1880. (No model.)

To all whom it may concern:

Be it known that I, WALTER SMITH, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and
5 useful Improvement in Molds for Casting Air-Chambers and Other Hollow Articles, of which the following is a specification.

My invention relates to mold-boxes or flasks which are employed to cast air-chambers and
10 similar hollow articles in which the sand cores are supported by brackets or bearings extending outwardly from the mold-box or flask, for the purpose of avoiding the use of iron chaplets for supporting the cores, such chaplets
15 being objectionable because they are retained in the articles after casting and are apt to cause leaks therein.

My invention consists in the combination, with a horizontally-divided mold-box or flask,
20 of a half-bearing secured to and projecting outward from one end or side of the lower part of said mold-box or flask, a pattern and a core, each having a stem or print which is fitted to said half-bearing, and a cap made
25 separate from and entirely independent of the upper part of said mold-box or flask, and adapted to be secured to said half-bearing to hold the pattern or core in place before the upper part of said mold-box or flask is placed
30 upon the lower part thereof.

In the accompanying drawings, Figure 1 represents a vertical section of a mold-box or flask embodying my invention, and having a pattern supported therein. Fig. 2 represents
35 an end view of such box or flask. Fig. 3 represents a plan of the lower half of said box or flask and one-half of the pattern contained therein; and Fig. 4 represents a similar view of the lower half of the box or flask, and a
40 central section of a core and its hollow stem or pipe arranged therein.

Similar letters of reference designate corresponding parts in all the figures.

A B designate, respectively, the lower and
45 upper halves or parts of a mold-box or flask embodying my invention, the ends of which are shown as consisting of iron plates, while the sides are of wood, though they may also be of iron.

50 The two halves or parts are furnished with

the ordinary lugs *a*, through which are inserted pins for properly centering the parts one upon the other.

C designates a long bearing projecting outwardly from one end or side—in this instance
55 the end of the lower part, A—and which, as here shown, is formed in a bracket, C', which is cast in the same piece with one of the end plates of the mold-box or flask, though it might be made separately and rigidly bolted
60 thereto.

The bearing C, which is really a half-bearing, is bored out truly throughout its length, or, as here represented, at different points *b*,
65 to save labor.

At the outer end of the bearing is secured, by bolts *c*, a cap, D, by which a round pipe or print fitted to the bearing may be securely
70 clamped in place, and the iron end of the upper part, B, is bored out at *d*, so as to fit closely upon such pipe or print and aid in clamping it immovably.

Referring to Figs. 1 and 3, E designates a pattern for an air-chamber, provided at one end with a projecting stem or print, F, which is
75 accurately fitted to the bearing C, the said pattern and stem or print being longitudinally divided, as is usual. In molding, the pattern E is clamped in the bearing C and the sand
80 rammed in the ordinary manner to form the exterior of the air-chamber, after which the pattern is removed. It will be observed that at the smaller end of the pattern is a print, *e*, which bears against the plate of the mold-box
85 or flask and thus fixes the longitudinal position of the pattern in said box or flask.

Referring to Fig. 4, G designates an ordinary core, composed of flour and sand, and formed upon a hollow stem or pipe, H, so that the latter is exactly concentric with the axis
90 of the core. The said stem or pipe is accurately fitted to the bearing C, and the portion within the core has in it perforations, to enable the stem or pipe to serve as a vent. At the smaller end of the core is a projection, *f*,
95 which fits the impression left by the print *e* upon the pattern, and, bearing against the end plate, enables the core to be readily adjusted longitudinally, to give the required thickness
100 of metal at the large or rounded end of the

chamber. By clamping the pipe or stem H
securely in the bearing C the core is held cen-
trally within the mold, and a uniform thickness
of metal on all sides insured. After the two
5 parts of the mold-box or flask are clamped se-
curely together the box or flask is turned on
end and the molten metal poured in through
one or more pouring-holes, g.

It will be observed that the half-bearing C
10 does not interfere with laying the lower part
of the mold-box or flask upside down on a
mold-board, and that, as the cap D is entirely
separate from and independent of the upper
part of the mold-box or flask, the core may be
15 placed in the mold and its stem rigidly secured
in the bearing before the upper part of the
mold-box or flask is placed upon the lower
part, thus affording provision for clearly seeing
the exact position to which the core is adjusted
20 before closing the mold-box or flask.

I am aware that it is old to support both
cores and patterns in a bearing or bearings
projecting from a mold-box or flask, and I am
also aware that such bearings have been com-
25 posed of two brackets having rounded or con-
cave faces and secured one to each part of the

mold-box or flask. In this latter case the core
cannot have its stem clamped in the bearing
for it until the two parts of the mold-box or
flask are placed together and secured, and at 30
that time the position of the core in the mold
cannot be seen.

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

The combination, with a horizontally-divided 35
mold-box or flask, of a half-bearing secured to
and projecting outward from the end or side
of the lower part of said mold-box or flask, a
pattern and a core, each having a stem or
print, which is fitted to said half-bearing, and 40
a cap made separate from and entirely inde-
pendent of the upper part of said mold-box or
flask and adapted to be secured to said half-
bearing to hold the pattern or core in place
before the upper part of said mold-box or flask 45
is placed upon the lower part thereof, sub-
stantially as and for the purpose herein speci-
fied.

WALTER SMITH.

Witnesses:

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