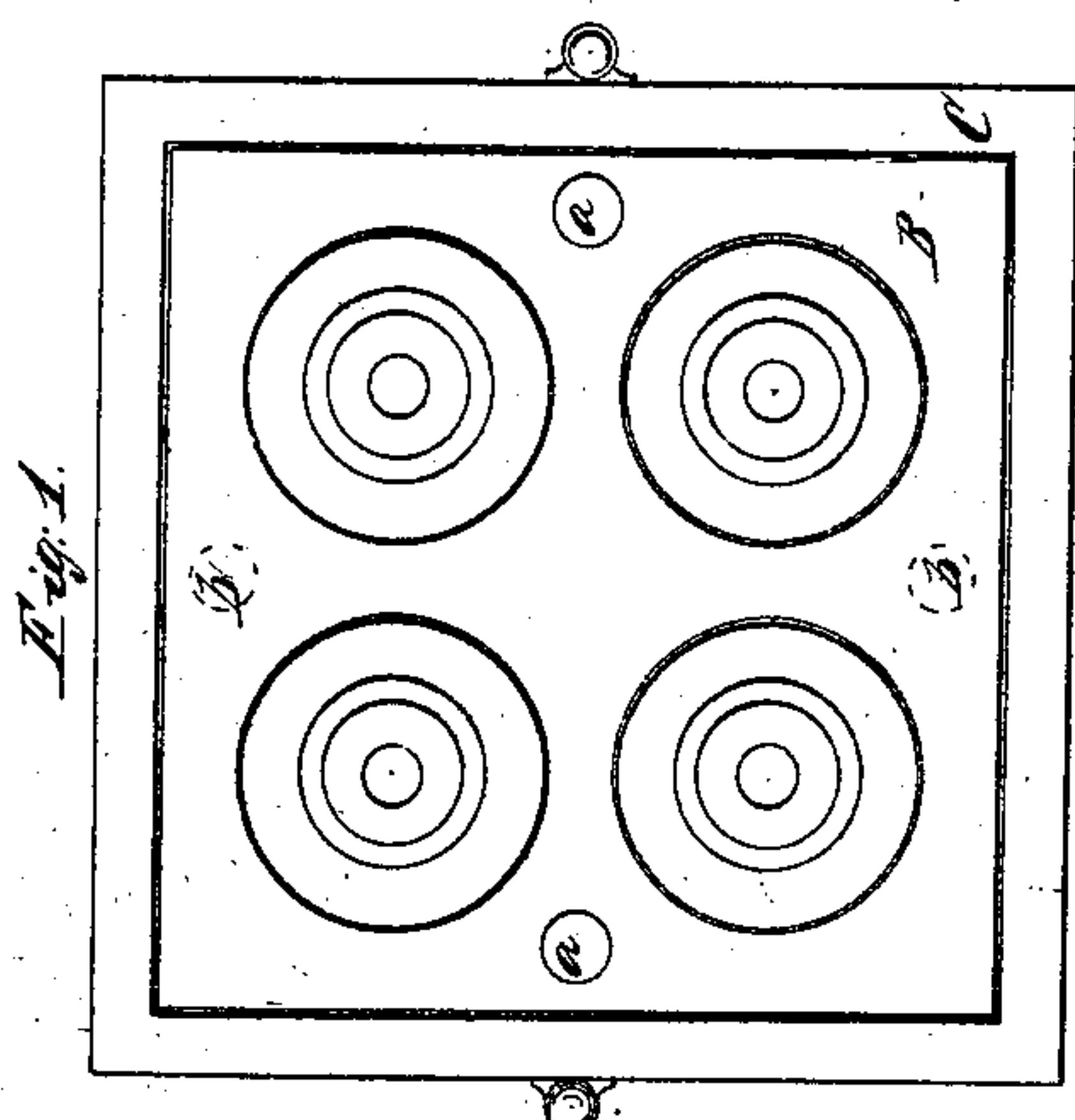
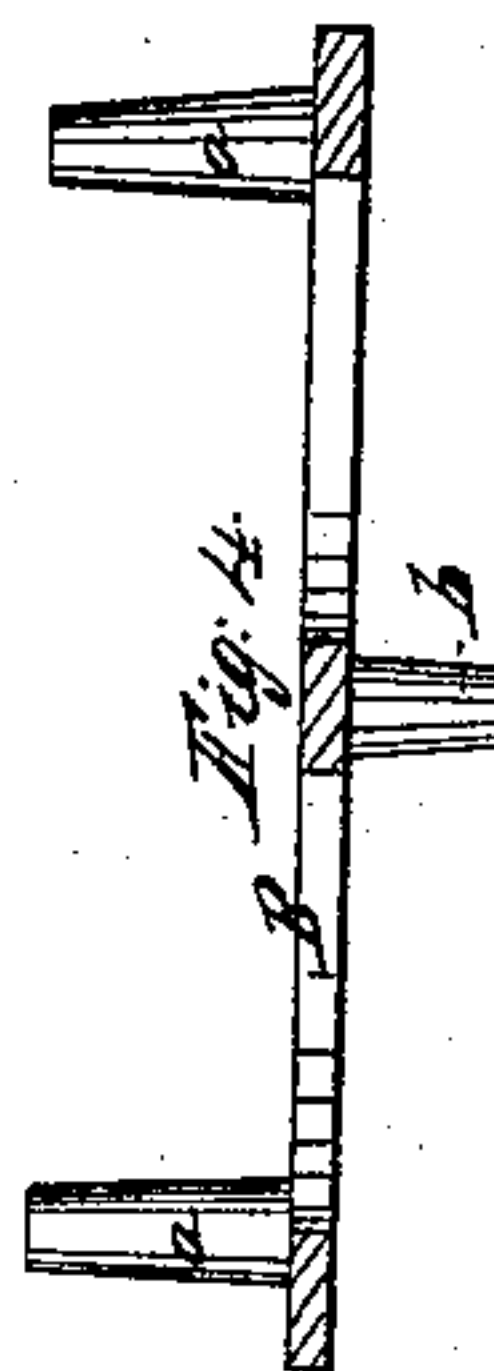
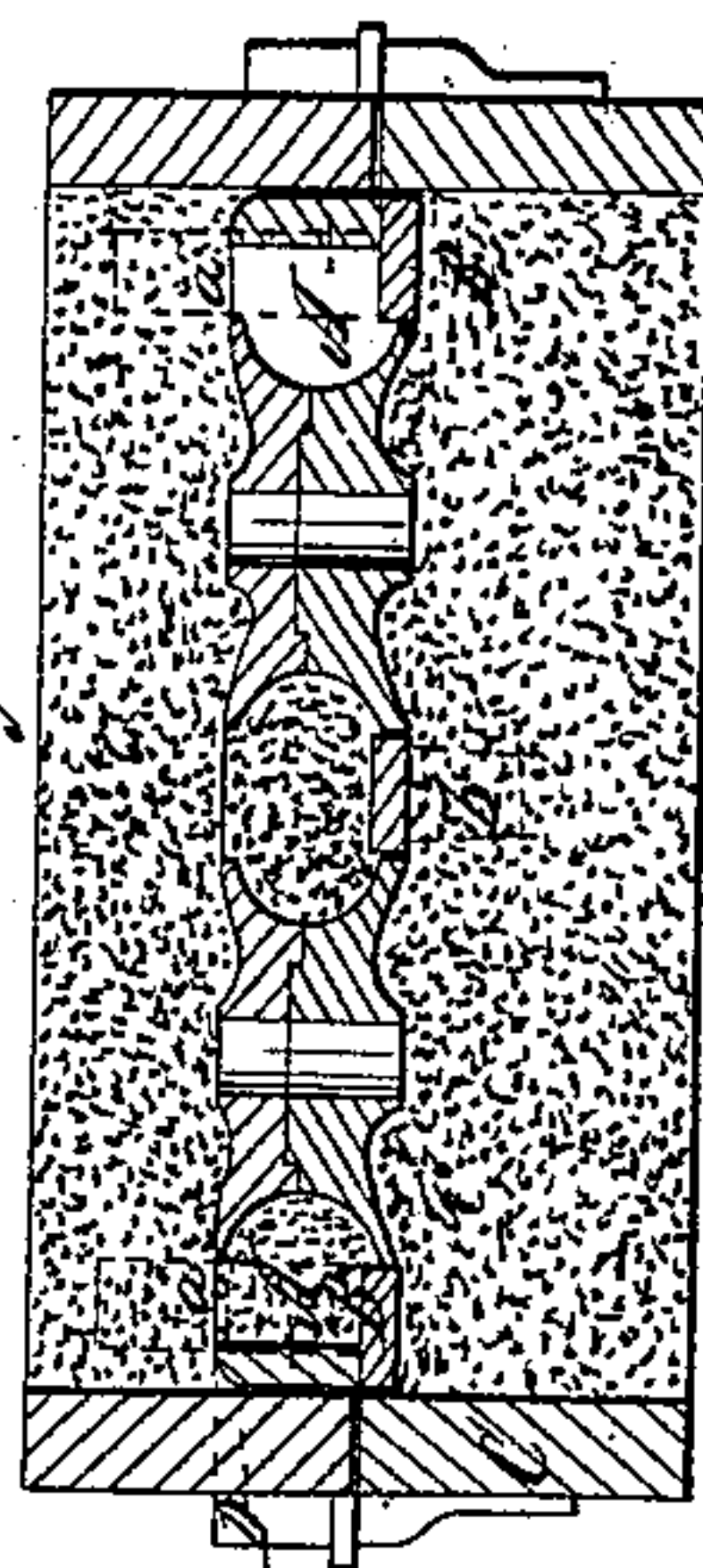
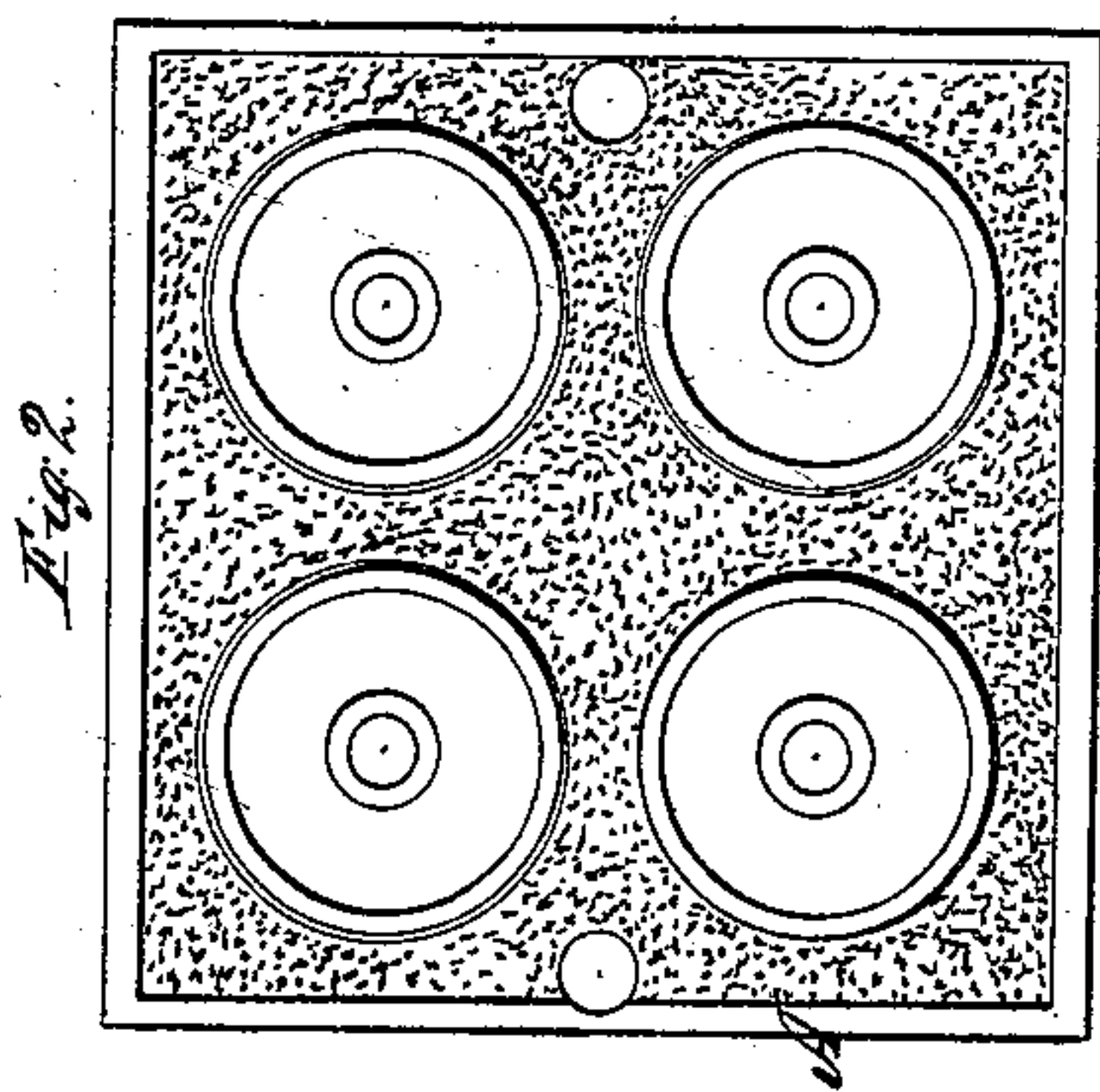


S. Ray,

Casting Iron Sheaves.

N^o 38,912.

Patented June 16, 1863.



Witnesses:
W. C. Combs
W. Reed

Inventor:
Samuel Ray
per Munn & Co
attorneys.

UNITED STATES PATENT OFFICE.

SAMUEL RAY, OF ALLIANCE, OHIO.

IMPROVEMENT IN MOLDS FOR CASTING SHEAVES.

Specification forming part of Letters Patent No. 38,912, dated June 16, 1863.

To all whom it may concern:

Be it known that I, SAMUEL RAY, of Alliance, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Molds for Casting Iron Sheaves, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a plan or top view of the drag or lower part of the mold with the "lifter." Fig. 2 is a plan or top view of the dished follow-board. Fig. 3 is a transverse vertical section of the mold. Fig. 4 is a transverse vertical section of the lifter detached.

Similar letters of reference in the four views indicate corresponding parts.

This invention consists in the employment of a plate or lifter with one or more holes, which, in addition to its use of lifting the sand or main body of the mold, also serves as a support to the mold and prevents it from being crushed by the upper part of the flask being closed on it after the patterns are withdrawn.

To enable others skilled in the art to make and use my invention I will proceed to describe it.

A represents a dished follow-board, upon which both halves of the pattern are placed, as clearly shown in Fig. 2 of the drawings. The sand is then rammed up even with the top of the follow-board, and the lifter B is put on. This lifter consists of a metal plate with one or more holes corresponding to the number of patterns on the follow-board, and it is provided with projections *a b* rising from both surfaces, the projections *a* for the purpose of lifting the sand, and the projections *b* for the purpose of guiding the position of the

lifter, as will be hereinafter more fully explained. After the lifter has been adjusted the "drag" or lower part, C, of the flask is put on the follow-board and rammed up full with sand and then turned over. The upper part, D, of the flask is then put on and rammed up full. By lifting the upper part, D, off again the upper half of the pattern can be drawn. The plate or lifter B is now raised with the mold by means of the projections *a*, and the lower half of the pattern is drawn, the plate and mold are replaced, being guided by the projections *b*, and the mold is complete. It is gated in the usual manner with horn gate.

By the use of my device the ordinary three-part flask can be dispensed with, and the particular advantage of my flask over the three-part flask is that I am not compelled to turn over with one-half of the pattern withdrawn. The ordinary three-part flask must necessarily be turned over after one-half of the pattern has been withdrawn, and at this stage of the operation it is liable to break down.

By the use of my lifter the sand or main body of the mold can be lifted off, and said lifter or plate also supports the mold and prevents it from being crushed by the upper part of the flask being closed on it after the patterns are withdrawn.

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

The employment or use of the plate or lifter B, in combination with the follow-board A and flasks C D, all constructed and operating in the manner and for the purpose substantially as shown and described.

SAMUEL RAY.

Witnesses:

HOWARD BARNABY,
J. S. EVERHARD.