

(No Model.)

2 Sheets—Sheet 1.

E. H. MURDOCK.

MOLD FOR CASTING STENCH TRAPS.

No. 334,033.

Patented Jan. 12, 1886.

FIG. 1.

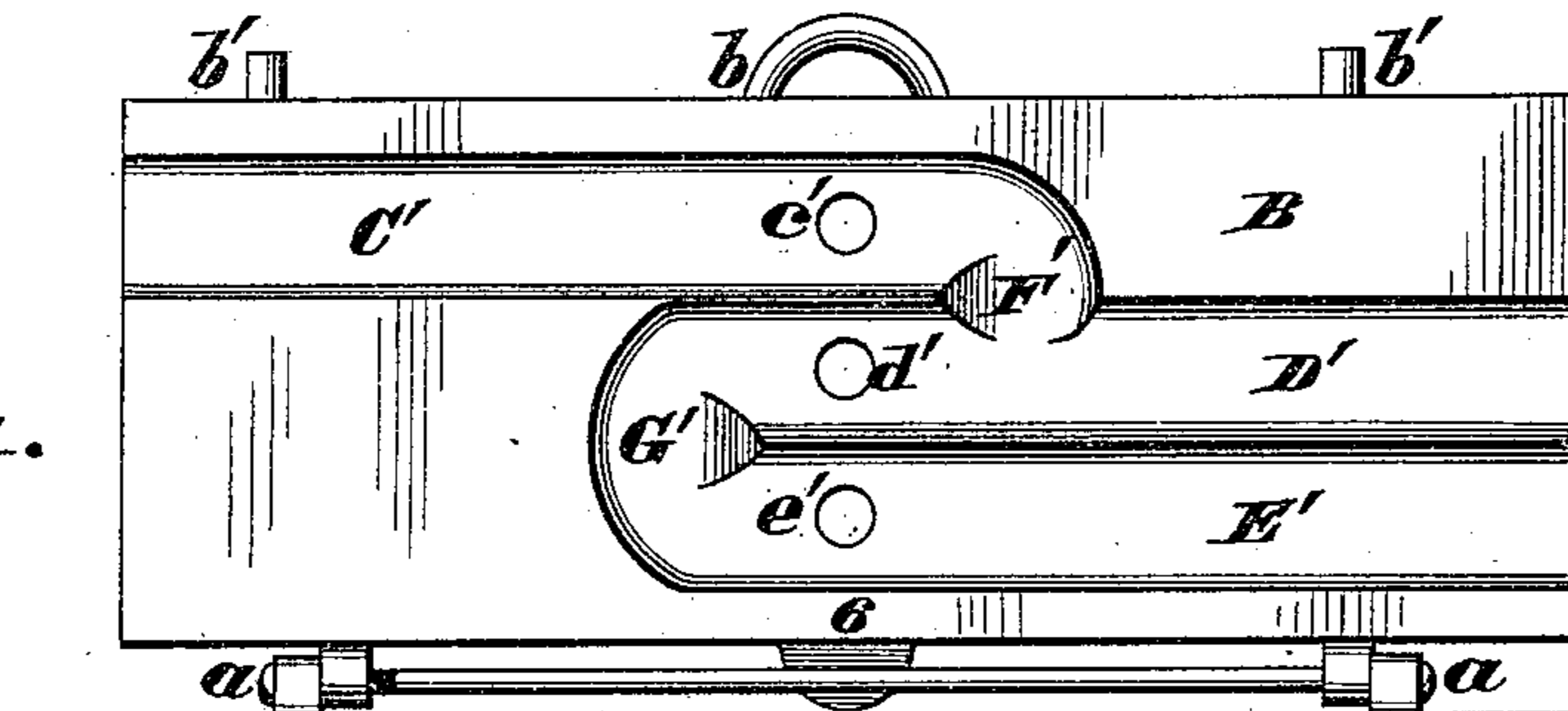


FIG. 2.

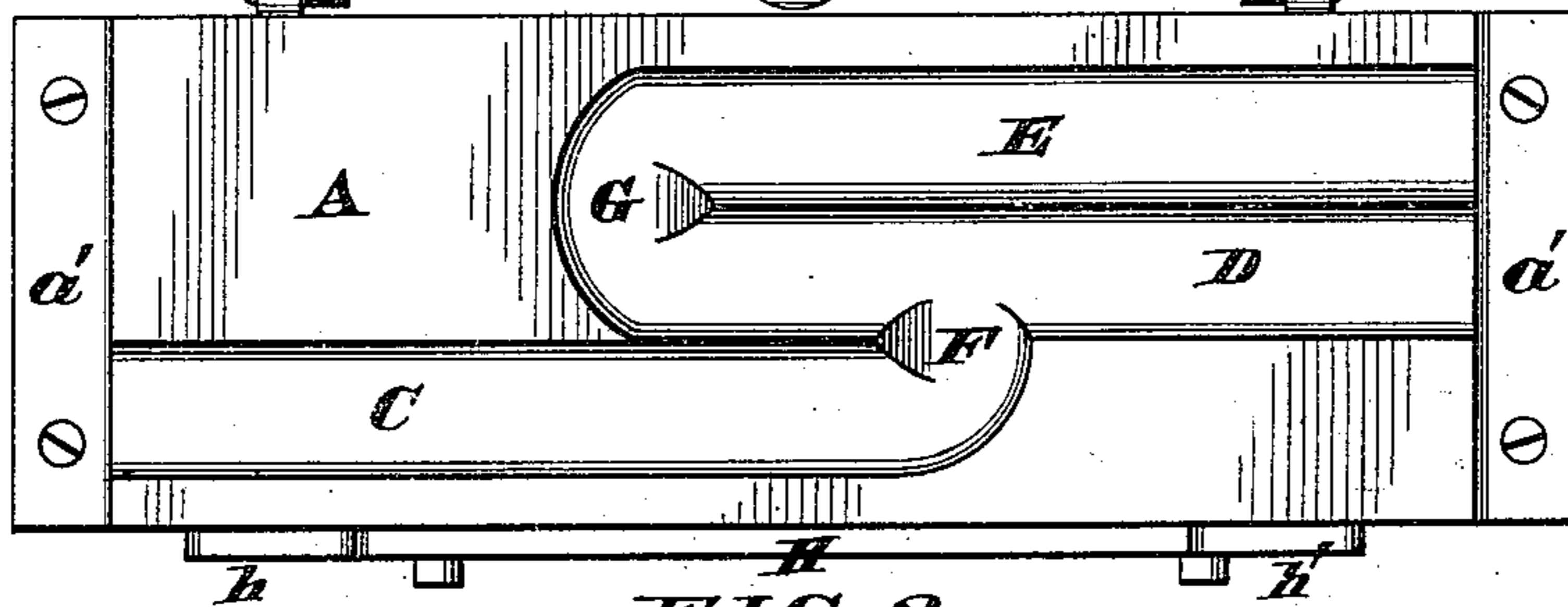


FIG. 3.

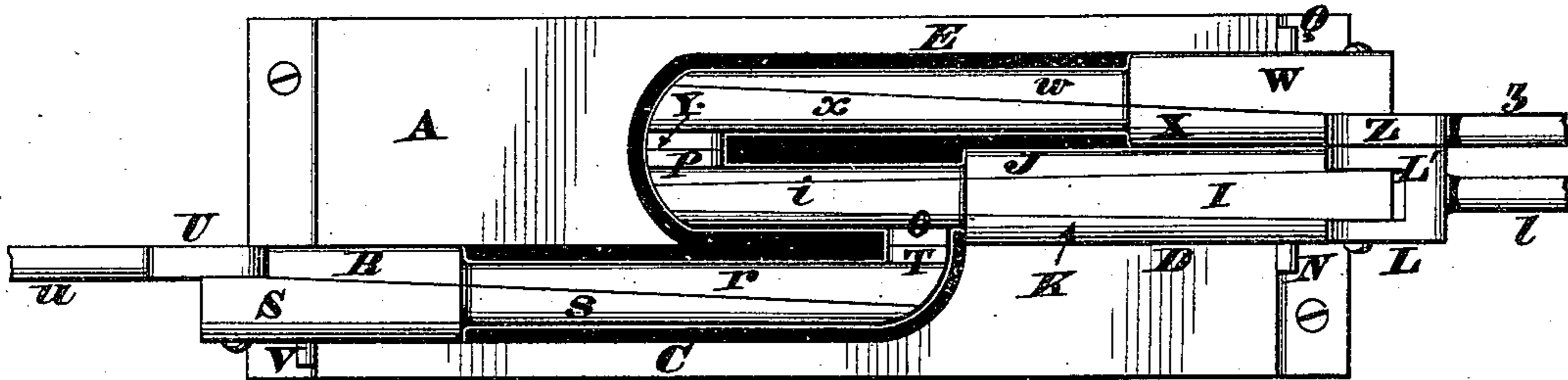


FIG. 4.

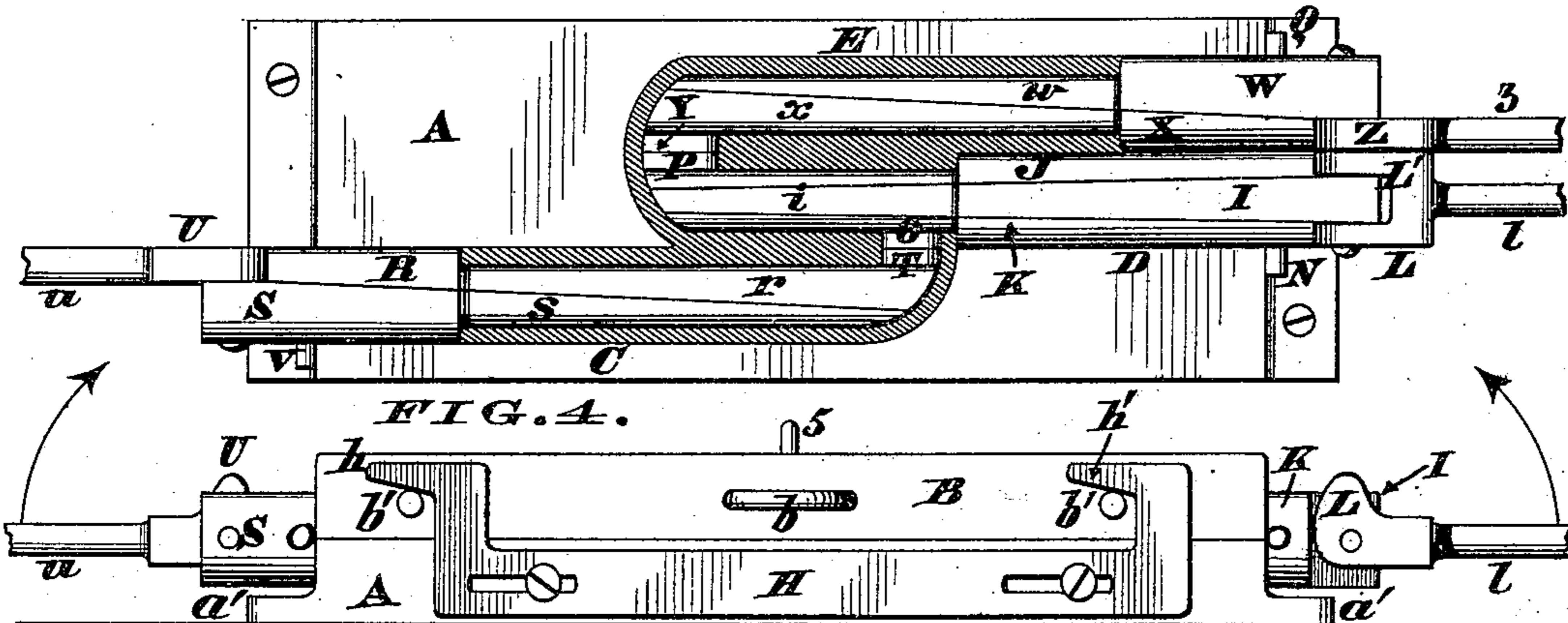
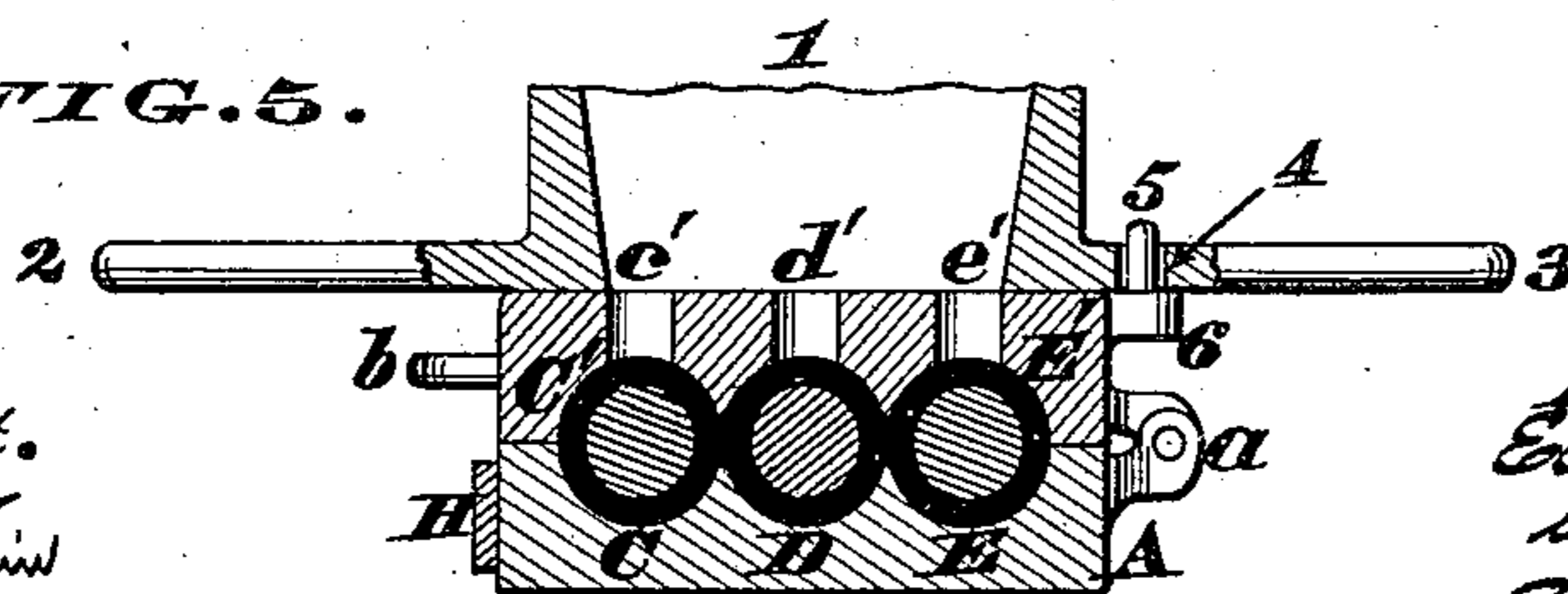


FIG. 5.



Attest.
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Atty.

(No Model.)

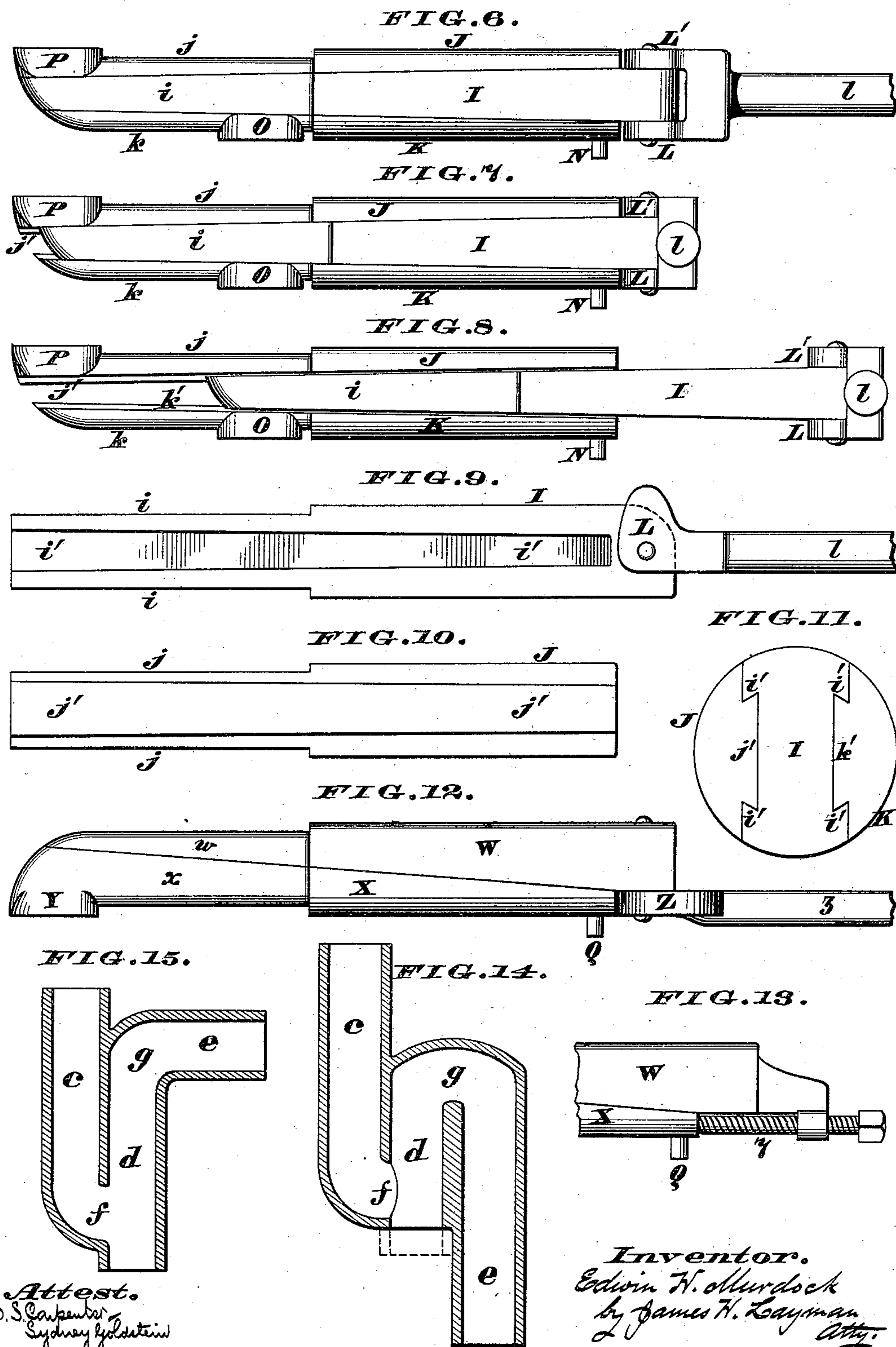
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

EDWIN H. MURDOCK, OF CINCINNATI, OHIO.

MOLD FOR CASTING STENCH-TRAPS.

SPECIFICATION forming part of Letters Patent No. 334,033, dated January 12, 1886.

Application filed January 24, 1885. Serial No. 153,816. (No model.)

To all whom it may concern:

Be it known that I, EDWIN H. MURDOCK, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Stench-Traps, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention comprises a novel apparatus for casting such stench-traps as include three chambers or tubes and a pair of communicating water-passages, the details of said apparatus being hereinafter more fully described, and pointed out in the claim.

In the annexed drawings, Figure 1 is a plan of the hinged flask or mold used for casting the trap, said flask being shown in its open position. Fig. 2 is a plan of the lower member of said flask with the sectional core-bars inserted in the matrices or molds thereof. Fig. 3 is a similar plan, but showing the trap cast around the core-bars, said trap being sectioned. Fig. 4 is a front elevation of the closed flask. Fig. 5 is a transverse section of the same, the flask being arranged to admit the molten metal. Fig. 6 is an enlarged plan of a three-part core-bar, the handle thereof being shown in its normal position. Fig. 7 is a similar plan, but showing said handle turned up to initiate the withdrawal of the central member of said core-bar. Fig. 8 is a plan showing this central member more fully withdrawn from its side pieces. Fig. 9 is a side elevation of the central member. Fig. 10 is a similar elevation of one of the side pieces of the three-part core-bar. Fig. 11 is an enlarged end elevation of said core-bar. Fig. 12 is a plan of a two-part core-bar. Fig. 13 is a modification thereof. Fig. 14 is an axial section of the cast trap. Fig. 15 is a modification of the same.

Referring to Fig. 1, A represents the lower member of a flask or mold, which is preferably of metal, and has hinged to it at *a* the upper member or lid, B, the member A being furnished with perforated flanges *a'*, where-with said flask is securely mounted upon a table or bench. Furthermore, this lower member, A, has three molds or matrices, C D E, joined by channels F G, said matrices and channels being exactly duplicated in the lid B, as at C' D' E' F' G'.

c' d' e' are gates leading into the matrices of said lid, which lid has a handle, *b*, and a pair of pins, *b' b'*, over which latter are engaged the hooks *h h'* of a sliding locking-piece, H, (seen in Fig. 4,) said locking-piece being applied to the body A of the flask.

Adapted to fit snugly within the central matrix, D, is a sectional core-bar composed of an inner member, I, and two side pieces, J and K, these three pieces being reduced in diameter at *i, j*, and *k*, respectively, to afford sufficient space for the metal to flow into the mold D. Furthermore, this central member, I, tapers toward its inner end, and is provided on its opposite sides with undercut grooves *i' i'* to receive the dovetail tongues *j'* and *k'* of the side pieces, J K, as more clearly seen in Fig. 11. The grooves *i' i'* are made broader at their inner than at their outer ends, as seen in Fig. 9, in order that the central member, I, may be readily withdrawn from between the side pieces, J K, after said member I has been started. The outer end of said member has pivoted to it a pair of cams, L L', operated by a common handle, *l*, said cams being adapted to bear against the ends of the side pieces, J K. Projecting laterally from the side piece K is a stop, N, that limits the entrance into the mold of the three-part core-bar I J K. Projecting laterally from the reduced portion *k* of side piece K is a stump, O, that occupies about one-half of the channel F, said stump being supplemented by a similar device, P, of the reduced portion *j* of the other side piece, J. This stump P occupies about one-half of the channel G.

Adapted to fit into the front matrix, C, is a core-bar composed of two sections, R S, having respectively reduced portions *r s*, the member R being provided with a stump, T, that enters the channel F and bears against the face of the stump O. Pivoted to the member S is a cam, U, that bears against the outer end of the section R, said cam being operated by a handle, *u*. V is a stop for this two-part core-bar R r S s.

Adapted to fit into the rear matrix, E, is a sectional core-bar, composed of two members, W and X, having respectively reduced portions *w x*, the member X being provided with a stump, Y, that enters the channel G and bears against the face of the stump P. Piv-

oted to the member W is a cam, Z, that bears against the outer end of the section X, said cam being operated by the handle z. Q is a stop for this two-part core-bar W w X x.

5 In Fig. 5 is seen a hopper, 1, adapted to rest on top of the closed flask A B, said hopper being provided with a pair of handles, 2 and 3, the latter being perforated at 4 to admit a pin, 5, that projects vertically from a
10 lug, 6, at the rear of the lid B.

In Fig. 13 is seen a screw, 7, for initiating the retraction of the sectional core-bars.

The method of casting a stench-trap with the above-described appliances is as follows:
15 The hinged flask A B is first thrown wide open, as seen in Fig. 1, and the united core-bars R S, I J K, and W X are placed respectively in the matrices C, D, and E of the lower member, A, of said flask, the pins V,
20 N, and Q limiting the entrance of said bars. When thus inserted, the faces of the stumps P Y and O T bear against each other, and the space afforded around the reduced portions of the core bars affords room for the molten
25 metal or other material to flow in, and thereby form the cast stench-trap. In Fig. 2 this space for the casting has been shown perfectly black, so as to render it more conspicuous. The lid B of the flask is now closed and fastened by
30 advancing the locking-piece H, and causing its hooked ends h h' to engage over the pins b' b', as seen in Fig. 4, after which act the hopper 1 is mounted on said closed flask, as represented in Fig. 5. The proper charge of molten
35 metal is then poured into the hopper and runs down the gates c' d' e' into the matrices C C', D D', and E E', thereby forming the trap, as indicated by the section-lines in Fig. 3. After the metal has hardened sufficiently, the operator grasps
40 the handles 2 and 3 and swings the hopper laterally across the top of the mold and in close contact with the same, the pin 5 serving as a fulcrum to permit this movement to take place. By this means any surplus metal that
45 might project above the gates c' d' e' is readily cut off. The hopper is then removed, and the next operation consists in withdrawing the various core-bars from their respective matrices. Now, as the metal contracts in cool-
50 ing, and as the bars have lateral stumps firmly embedded or anchored in the metal, it is evident said bars cannot be drawn directly out of the molds; hence it becomes necessary to remove them in sections. The free end of handle l is accordingly turned up, as seen in Fig.
55 7 and indicated by the arrow in Fig. 4, which movement of said handle causes its pair of cams L' L to bear, respectively, against the outer ends of the side pieces, J K, and as the
60 latter cannot advance farther into the molds,

it is evident that the central section, I, must retract a slight distance. This initiatory retraction, however, is sufficient to free the central section from contact with the side pieces, J K, and allow said section I to be readily
65 pulled out of the mold, thereby affording ample space for the liberation of said side pieces. The other sectional core bars, R S and W X, are then removed in a precisely similar manner, after which act the locking-piece H is re-
70 tracted, the flask opened, and the finished trap is taken out of the same.

Reference to Fig. 14 shows that this cast trap has a receiving-pipe, c, that was formed in the mold C C', a central chamber, d, that
75 was formed in the mold D D', and a discharge-pipe, e, that was formed in the mold E E'. Furthermore, the lower end of pipe c is joined to the central chamber, d, by a passage, f, that was formed in the channel F F', while
80 said chamber has at its upper end another passage or water way, g, that communicates with the discharge-pipe e, which passage g was formed in the channel G G'. It will also be noticed that the chamber d is open at bot-
85 tom, which opening is provided for the reception of an ordinary trap-screw, the disengagement of which latter permits the ready removal of any sediment or obstructions that might enter the trap.
90

In order to afford a very secure engagement of the trap-screw, the lower end of chamber d may be prolonged below the inlet-pipe c, as indicated by the dotted lines in Fig. 14, and more clearly seen in Fig. 15, which latter
95 illustration shows that the discharge-pipe e may branch off laterally from the top of the aforesaid central chamber, d.

Whichever construction may be adopted, or whatever material may be employed, it is
100 apparent that the three chambers of the trap are all cast in one piece, thereby insuring the utmost uniformity of manufacture and obviating the expense and danger of solder or other joints.
105

I claim as my invention—

An apparatus for casting stench-traps having three communicating chambers, which apparatus includes a divided mold furnished with three matrices, each matrix having a sec-
110 tional core-bar fitted therein, and said core-bars being provided with lateral stumps that form the passages between said chambers, in the manner herein described.

In testimony whereof I affix my signature in
115 presence of two witnesses.

EDWIN H. MURDOCK.

Witnesses:

JAMES H. LAYMAN,
S. S. CARPENTER.