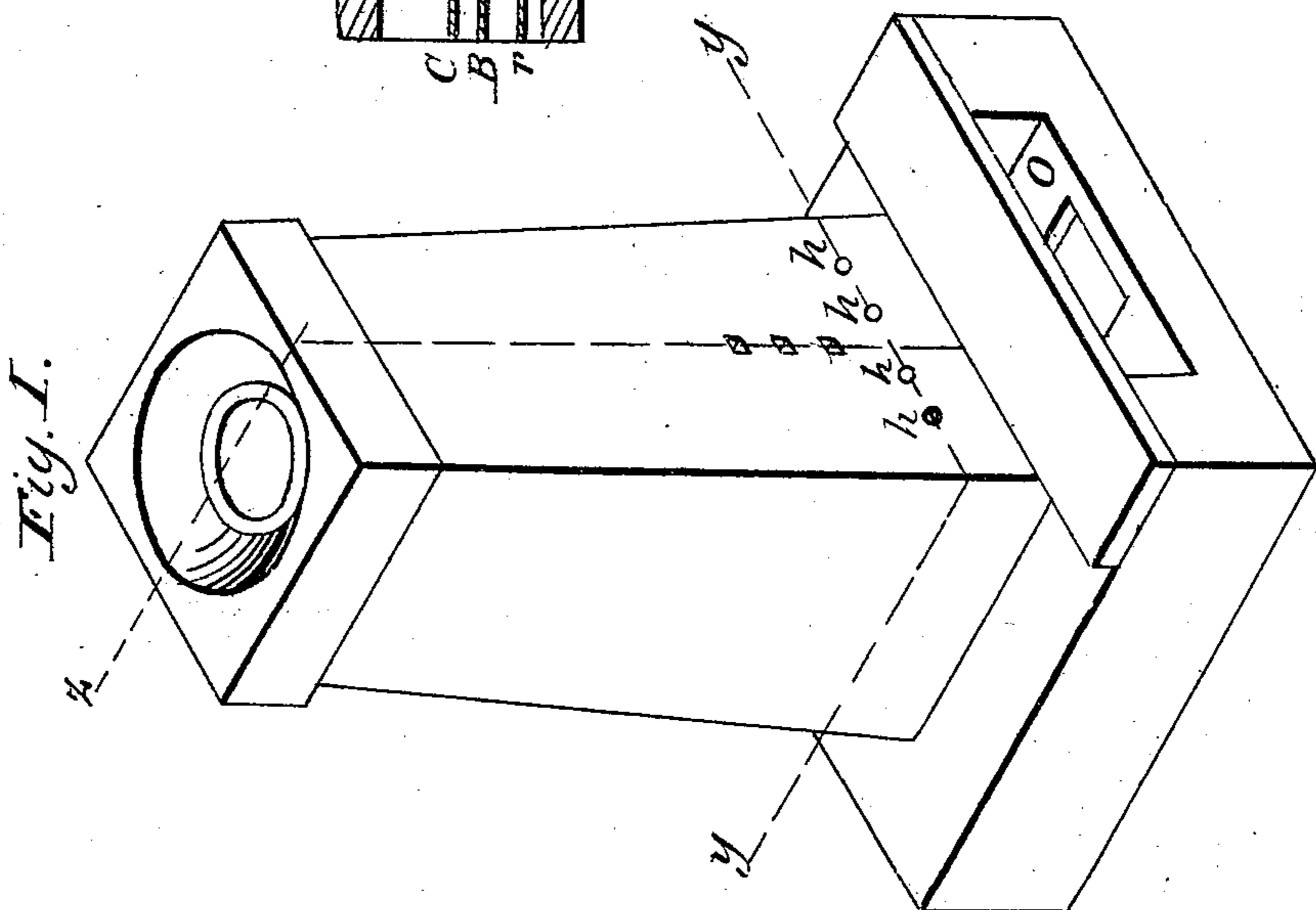
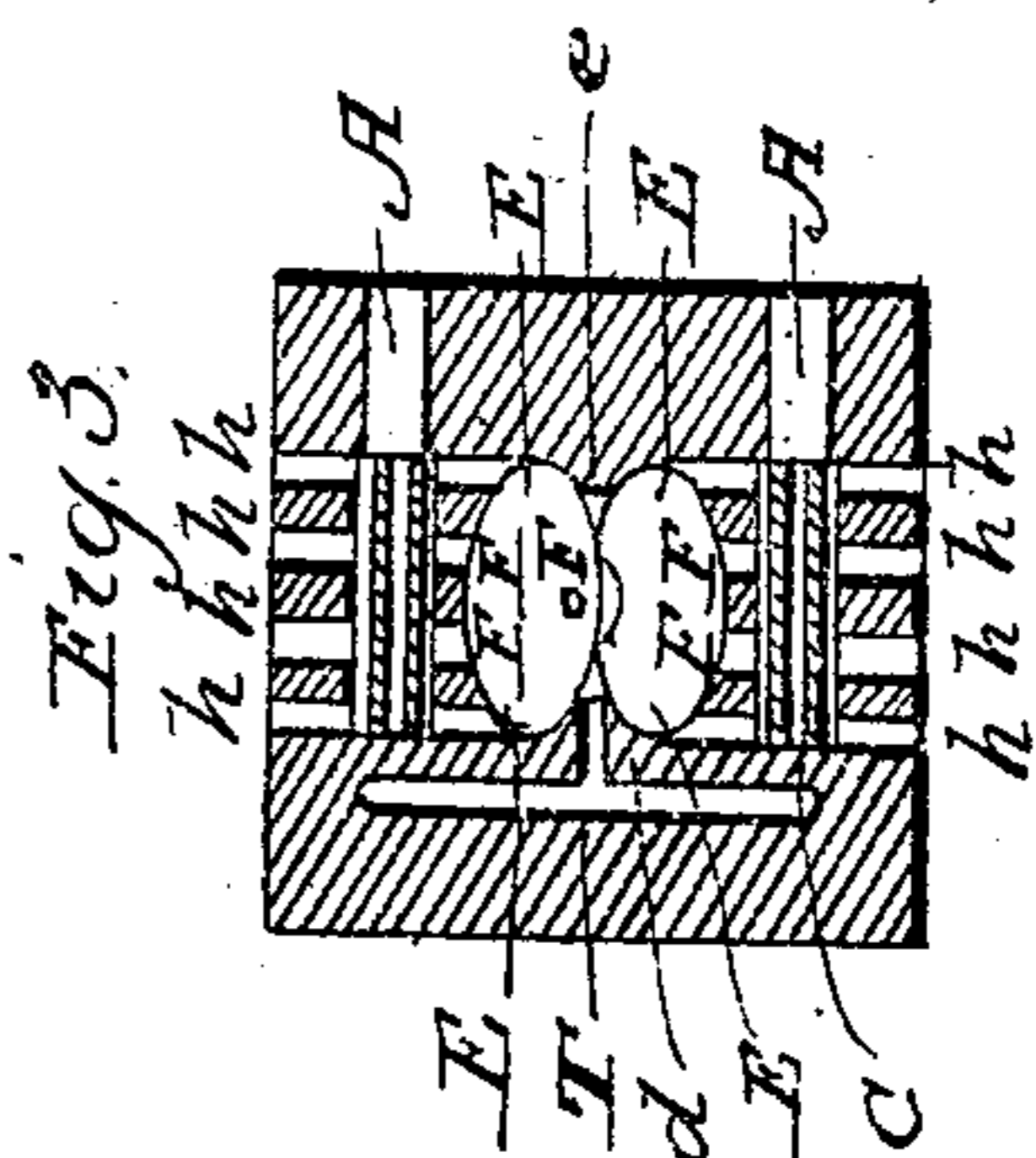
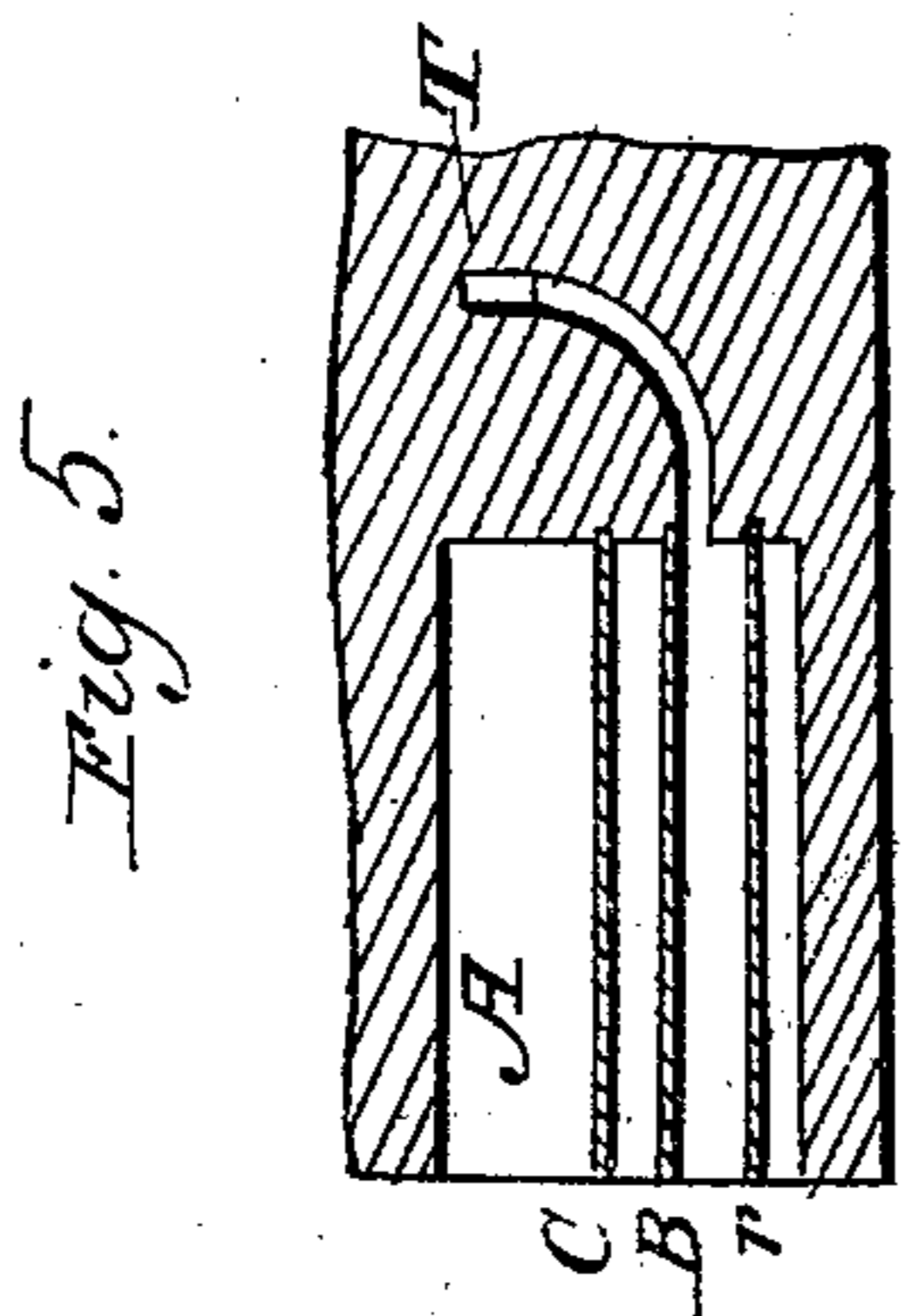
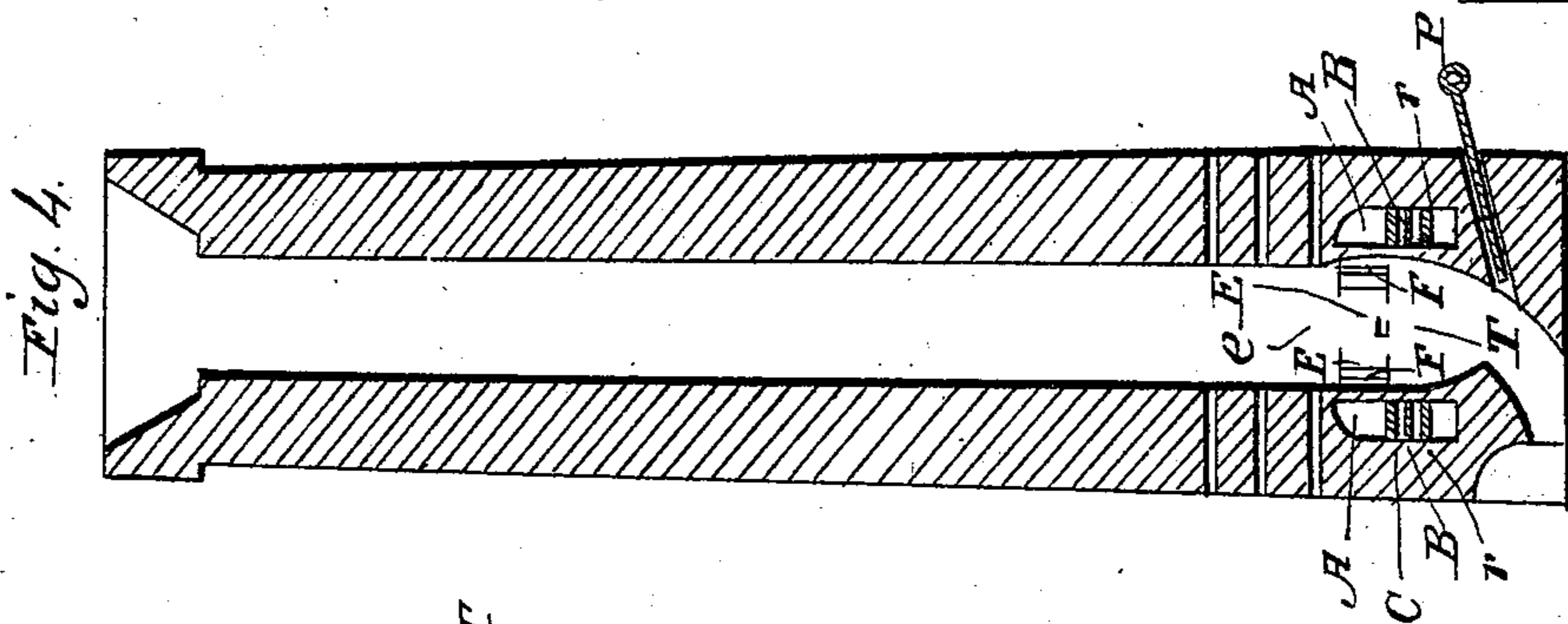
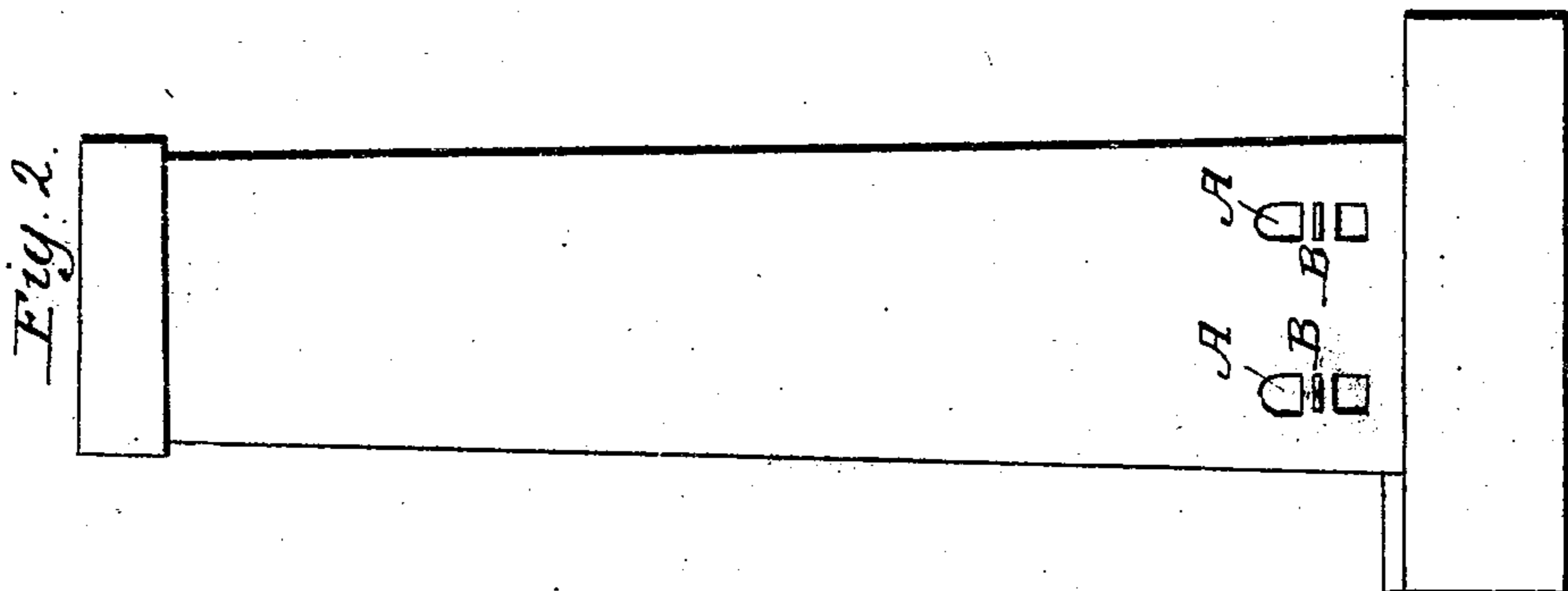


C. D. PAGE.

Lime Kiln.

No. 17,889.

Patented July 28, 1857.



UNITED STATES PATENT OFFICE.

C. D. PAGE, OF ROCHESTER, NEW YORK.

LIMEKILN.

Specification of Letters Patent No. 17,889, dated July 28, 1857.

To all whom it may concern:

Be it known that I, CLARK D. PAGE, of the city of Rochester, in the county of Monroe and State of New York, have made and invented certain new and useful Improvements in Limekilns; and I do hereby declare the following to be a full and accurate description of the same, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, same letters referring to like parts in all the figures.

Of said drawings Figure 1 is an isometrical view. Fig. 2 is an elevation of the side of which x Fig. 1 is the top. Fig. 3 is a sectional plan taken on line y Fig. 1. Fig. 4 is a vertical sectional elevation on line z Fig. 1. Fig. 5 is a section of the compound grates.

The nature of this invention consists in a more perfect and economical means of burning lime.

It will be seen on reference to the drawings that the interior of the kiln is in the form of a vertical tube—wide or flaring at the top to facilitate the reception of the charge and so curved at the bottom that the opening for the discharge of the lime is vertically beneath the center of the kiln—which discharge is further facilitated by means of the poker P, which enters the kiln as nearly as possible beneath the center.

O, Fig. 1 is the opening at which the lime is withdrawn.

The kiln being charged heat is imparted to the limestone by means of the following arrangement in those cases where wood is used. The sticks of wood being introduced into the arches A A are exposed upon the grate (G G) to the draft entering through the holes ($h h$). These grate bars are quite wide apart so that all the small fragments of charcoal fall through and prevent the fire from being clogged up. Beneath this grate is a close or solid plate B on to which these small fragments fall and where they are prevented from vitiating the air which in the absence of plate (B) would pass through the grate-bars to the large sticks. When however these fragments have accumulated to a sufficient extent, the plate (B) is withdrawn for a few

seconds when the fragments will fall on to the secondary grate (r) and may there be completely burned up—the heated gases arising from their combustion being carried into the kiln through the tubular flue (T) where they serve to aid the general calcination. When coal is used the plate B and grate r are not employed. The flame and gases arising from the energetic combustion of the large sticks which such a clear fire produces is led directly into the kiln by the flues E and F. The flues F pass in straight toward the center of the kiln, while the flues E passing inward at a tangent, the heated gases are deflected toward the center by the curved sides of the kiln which is here contracted in the manner shown in plan in Fig. 3, so as to reflect all the heat to the center of the kiln where it is most needed. In thus passing through and around the limestone at the sides however it necessarily heats it sufficiently to calcine it and thus a high and equable temperature is maintained throughout all the limestone at the level of the entering in of the flues. From this level it is gradually carried off as fast as calcined by means formerly described. And thus a constant series of charges may be uninterruptedly passed through without the necessity of cooling the kiln and exposing it to the expansion and contraction thus produced.

The projections at (e and d) which deflect the heat to the center are continued for a short distance above and below and are then gradually merged in the general curve of the interior of the kiln—as will be seen from the drawing Fig. 4.

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

The combination of the primary grates G, and the secondary grates r with the plate B and tubular flue T, when the same are arranged to operate in relation to each other in the manner and for the purpose set forth.

C. D. PAGE. [L. s.]

Witnesses:

JOHN PHIN,
GEO. B. BRAND.