

S.T. Fowler.

Constructing Concrete Walls.

N^o 28,069.

Patented May 1, 1860.

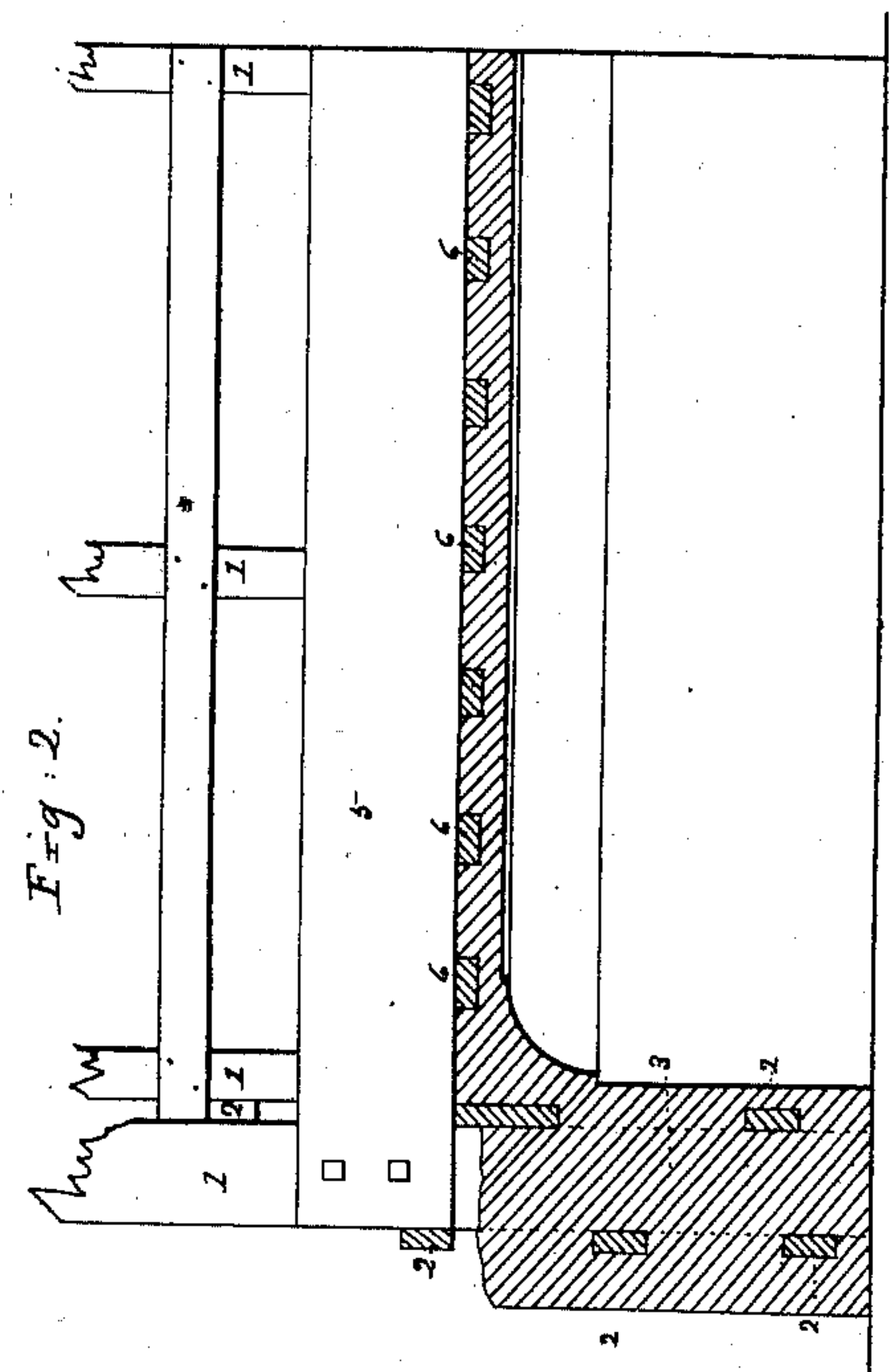


Fig. 1.

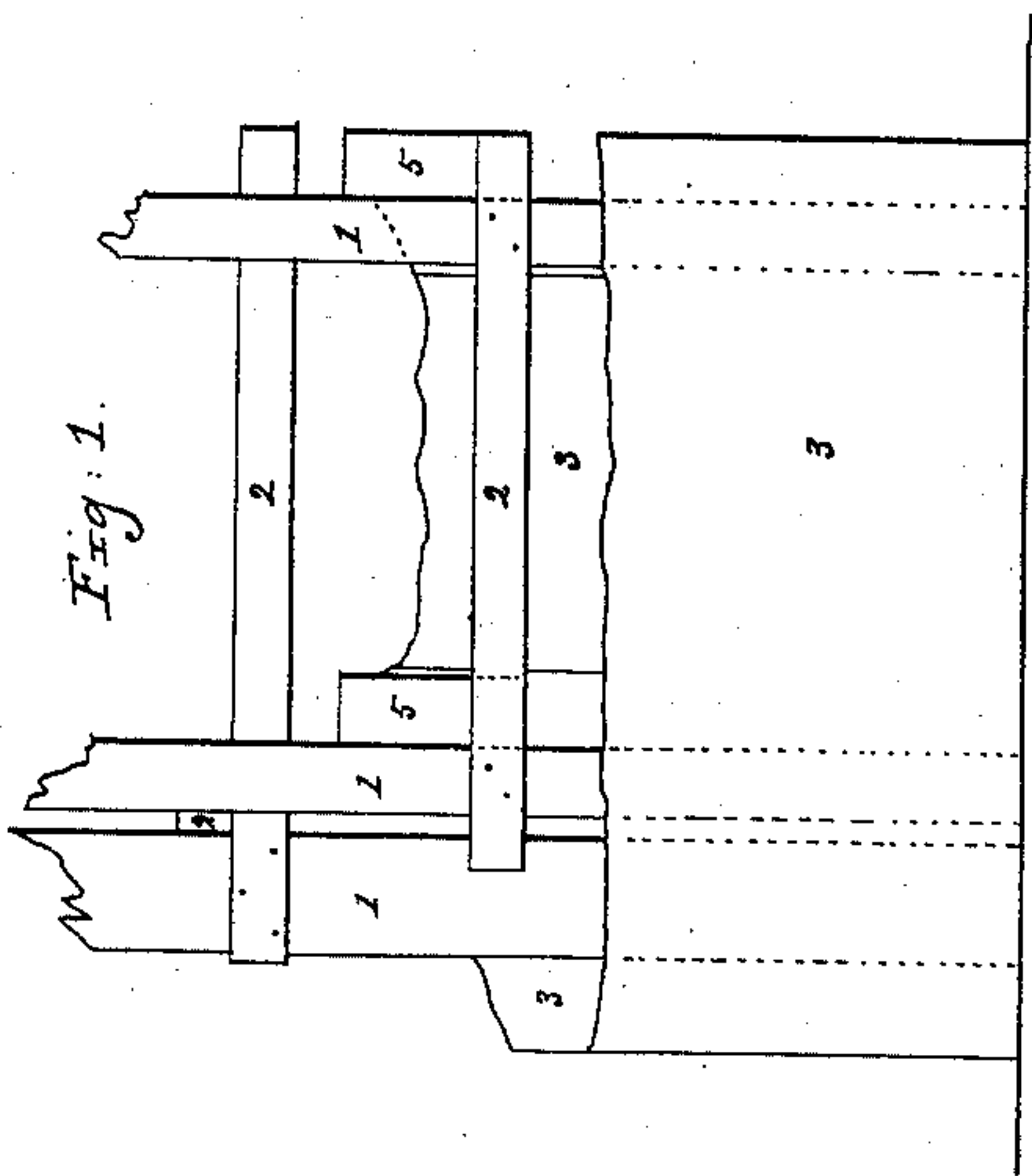


Fig. 2.

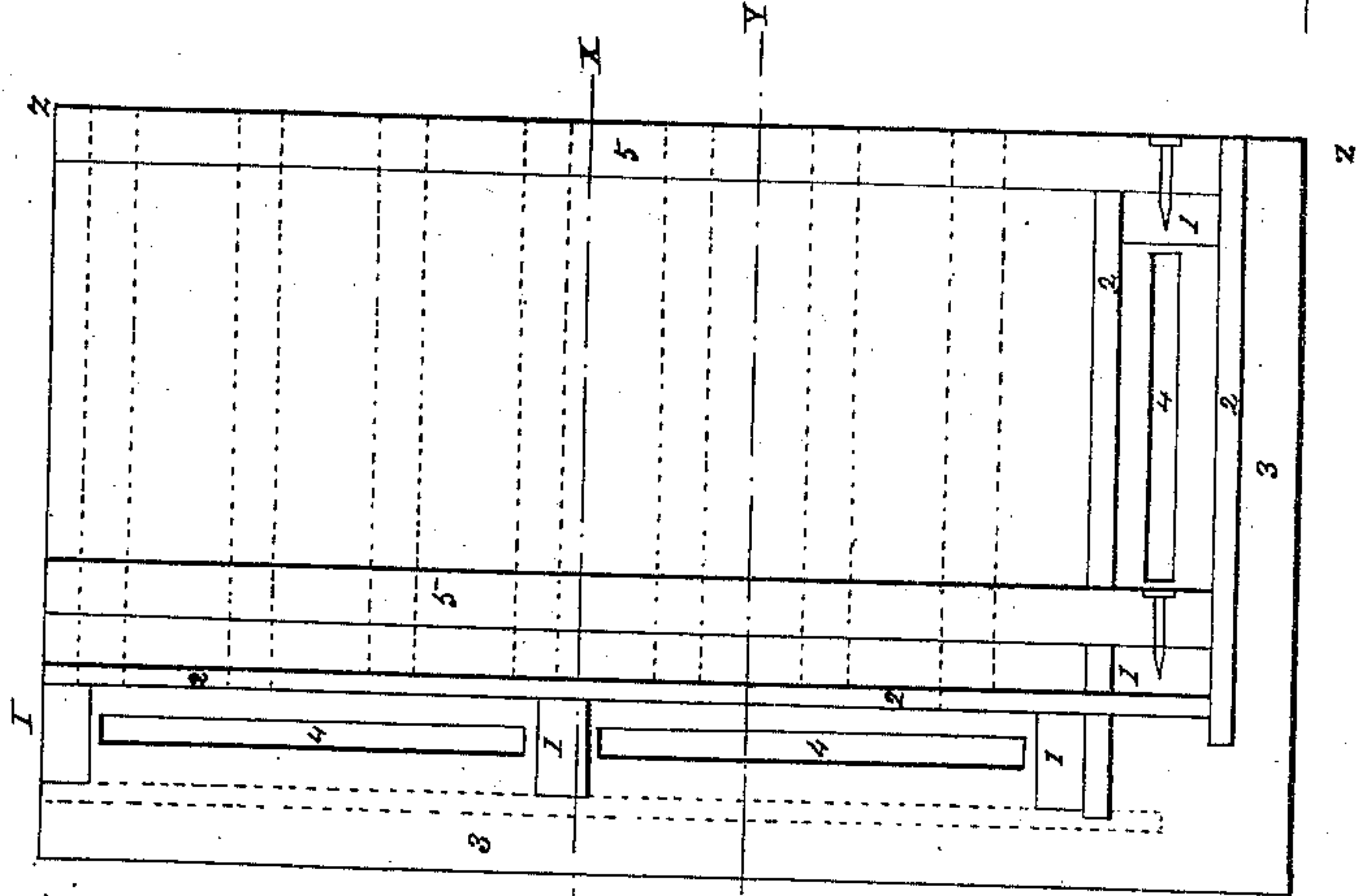


Fig. 3.

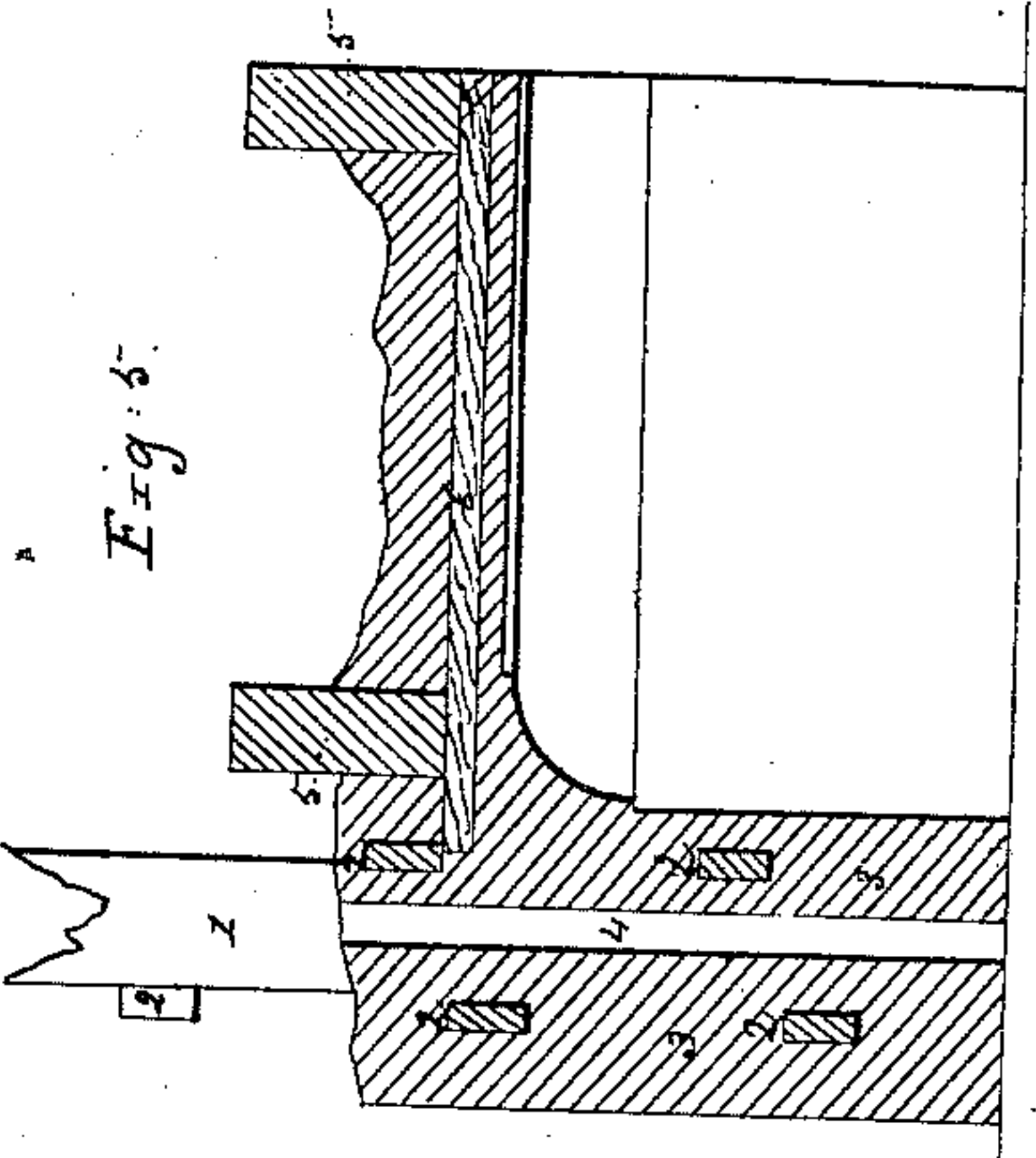


Fig. 4.

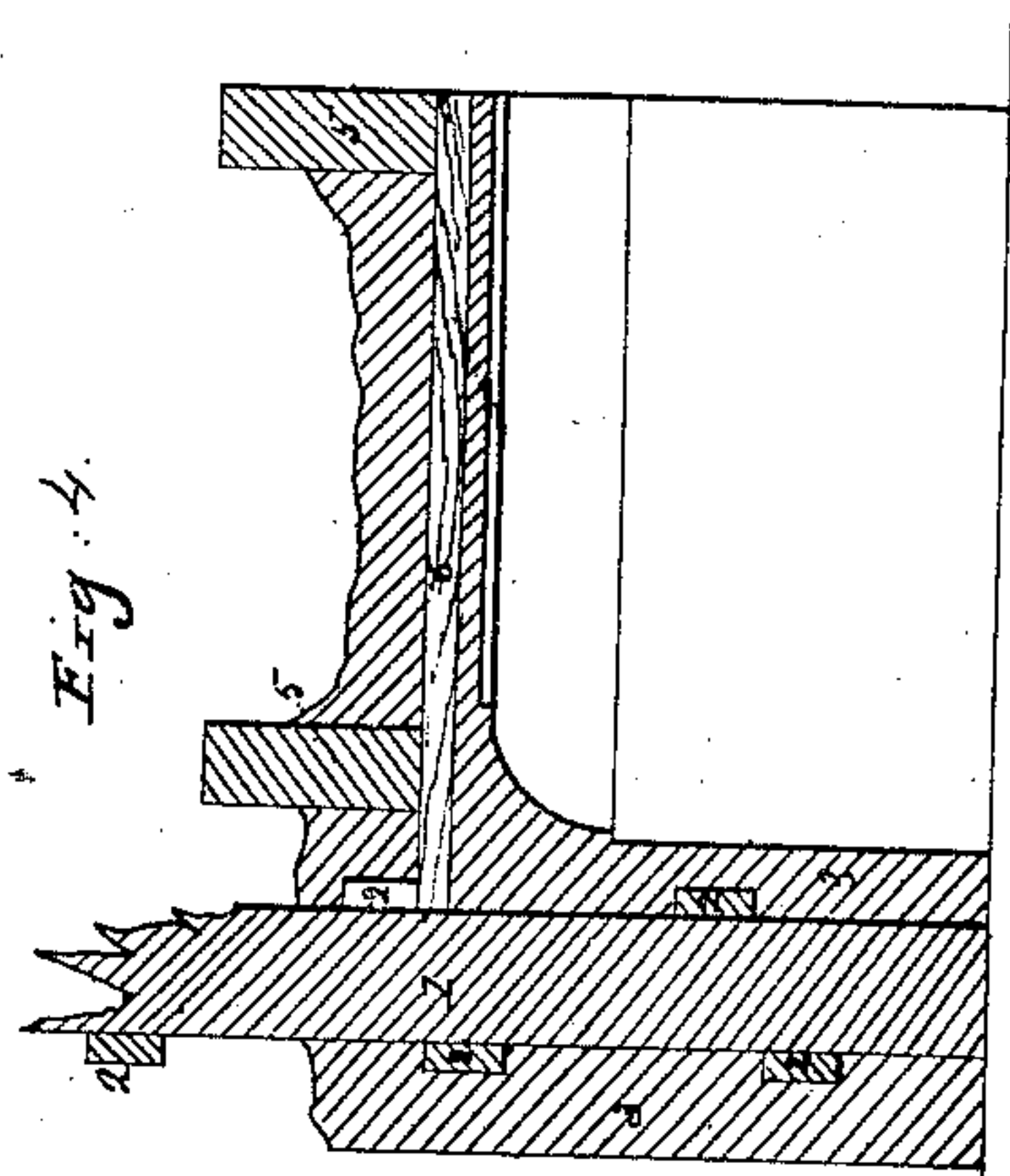


Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL T. FOWLER, OF BROOKLYN, NEW YORK.

CONSTRUCTION OF CONCRETE WALLS.

Specification of Letters Patent No. 28,069, dated May 1, 1860.

To all whom it may concern:

Be it known that I, SAMUEL T. FOWLER, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Concrete Walls, the construction and operation of which I have described in the following specification and illustrated in its accompanying drawings with sufficient clearness to enable competent and skilful workmen in the arts to which it pertains or is most nearly allied to make and use my invention.

My said invention consists in combining with a concrete wall in the manner herein-after described, a wooden framing made by attaching horizontal ribs or stretchers to upright timbers in such a manner that the wall shall entirely cover and protect the wood, while at the same time the wood shall bind the wall together, as hereinafter more fully set forth.

In the accompanying drawings Figure 1 is a side elevation of a piece of my improved wall with the concrete removed from the upper portion of it to show the construction of the wooden frame. Fig. 2 is a sectional elevation showing the arrangement of the horizontal pieces, and also partly showing the construction of the portion which is built overhead to form the upper wall of a room. This section is taken at the left hand of the line Z, Z, Fig. 3, and shows the parts at the left hand side of that line. Fig. 3 is a plan showing the wall in the same incomplete state as that in which it is represented in Fig. 1, and for the same purpose—that of showing the manner in which the inside framing is constructed and arranged. Fig. 4 is a sectional elevation showing the parts toward the top of the page from the line X X in Fig. 3. Fig. 5 is a sectional elevation of the parts upon the same side of the line Y Y, as drawn across Fig. 3.

1, 1, are posts or upright strips of wood placed at intervals along the wall as represented, and to which strips of wood 2, 2, are secured by nailing or otherwise in a firm and substantial manner. The strips 2, 2, are secured upon opposite sides of the posts 1, 1, so as to leave a space between them equal to the thickness of the said posts. The horizontal strips I generally prefer to attach in such position that the slats upon one side shall be opposite the openings between the slats upon the opposite side of the posts, as

shown upon the drawings, particularly Figs. 2 and 4.

The framing being properly prepared, boxes are made by attaching planks to the posts 1, 1, by screws or otherwise in such a manner as to leave sufficient space between the said posts and the planks to give the necessary thickness to the wall to cause the concrete to properly cover the slats or pieces 2, 2. The concrete 3 is then poured or worked in to fill these boxes, planks or their equivalent having been first set up in proper positions to form the openings 4, 4, as shown in Figs. 3 and 5. The object of these openings is to cut off the communication between the inner and outer portions of the wall forming an air space between these portions, by which arrangement the wall is rendered not only warmer but lighter and less expensive in the matter of material than it would otherwise be. These openings are however sufficiently thin to allow about the same thickness upon the horizontal strips 2 upon the inner or side next this opening as upon the outer side. When the mortar has sufficiently set or hardened, the planks which form the boxes are raised up, and attached in a higher position, to the posts 1 as before, and the spaces which had been occupied by the screws or other fastenings by which the boxes were secured to the posts are filled up. The work is continued in this way till the wall has risen nearly a story, when the joists 5, 5, are put into position and secured, (if that has not been done before), and the laths 6, 6, having been nailed across them, and a proper mold having been placed a sufficient distance below the laths to form a proper finish and surface for the overhead wall, that portion of the structure is formed of concrete very much in the same manner as the side walls, that portion which comes above the lath being continued above the lath in such a manner as to form a solid and continuous body above them, by which this overhead wall is more securely held in position than it would be with the ordinary clenches now generally formed in the operation of lathing and plastering. The construction and form of this part of the structure is very clearly shown in the drawings, particularly in Fig. 5. This continuous portion above the lath is however, divided by the joists 5, 5, as shown in Fig. 2. The side wall is then again proceeded with as before

to the next story, when the overhead wall is again formed as already described, and so on till the structure is completed.

The arrangement above described gives
5 very great strength and solidity with a very small cost of material, the wood being arranged in the wall in such a manner as to bind it together and fully support it, while at the same time the wood is itself bound to
10 some extent by the concrete as it is so surrounded by it as to be protected from the weather and from consequent decay.

It is obvious that the horizontal and upright pieces of timber 1 and 2, may be, either

one or both of them inclined from the position described and shown, and yet the essential features of the structure remain the same. 15

Having thus fully described my said invention, I claim— 20

The combination with a concrete wall of the framing composed of the timbers 1 and 2 arranged in the wall substantially as described for the purpose set forth.

SAMUEL T. FOWLER.

Witnesses:

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