

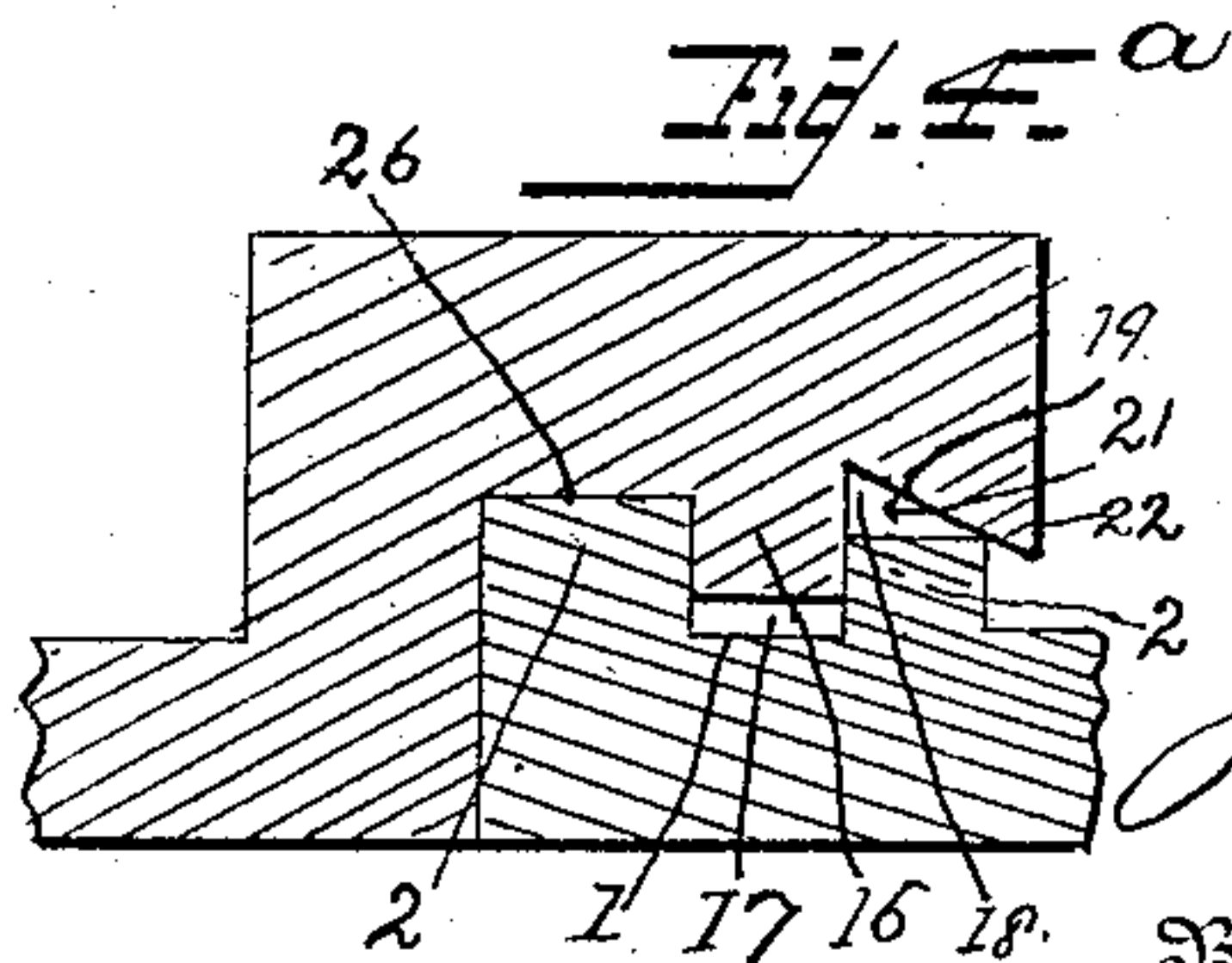
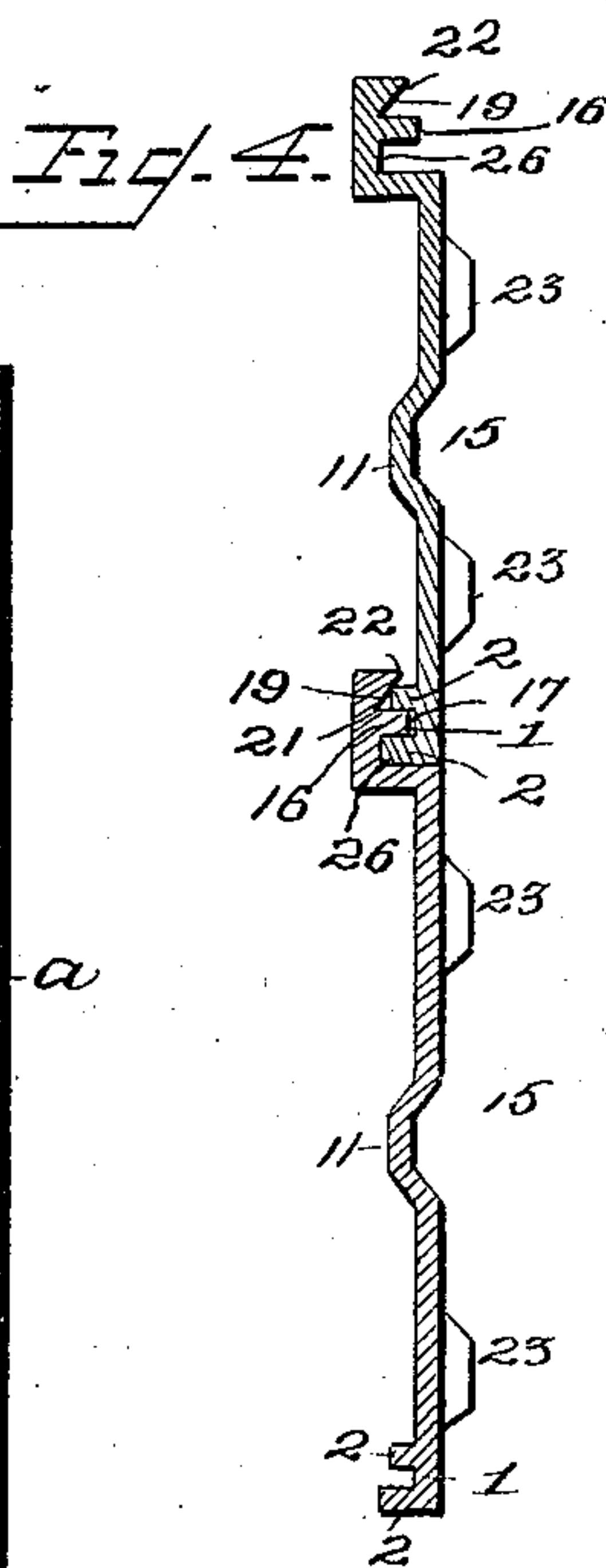
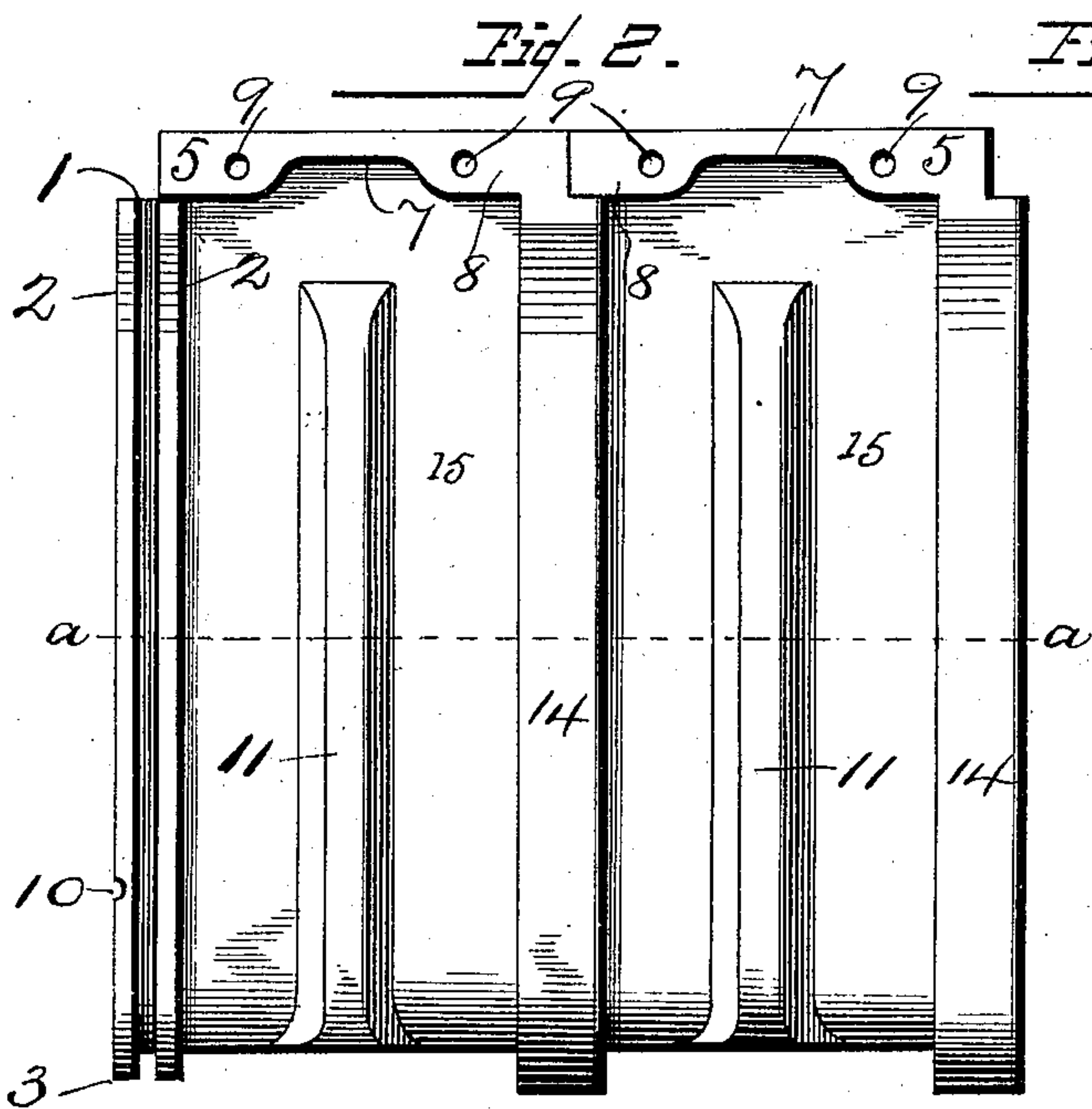
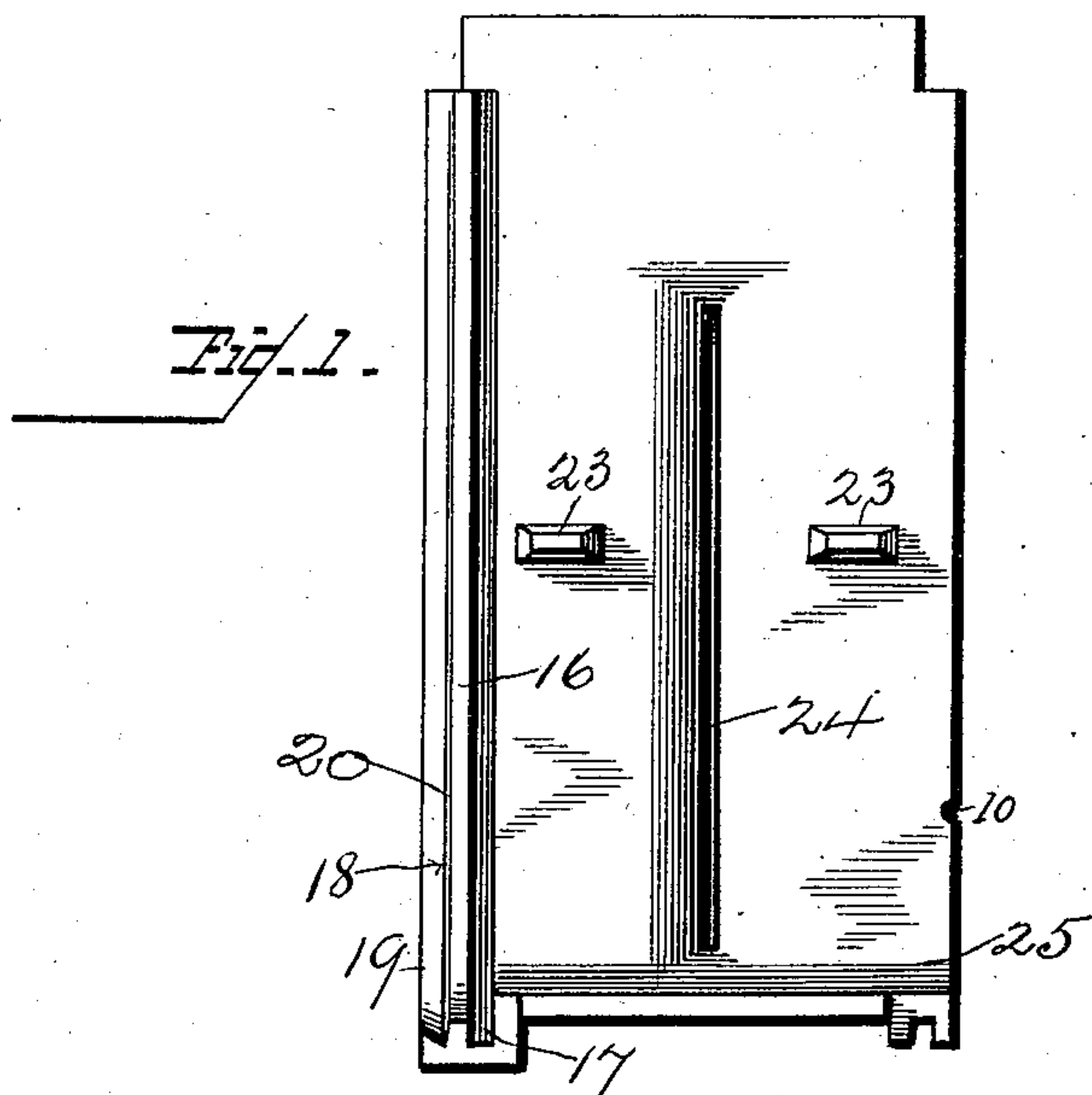
(No Model.)

2 Sheets—Sheet 1.

J. J. MERRILL.
TILE.

No. 557,137.

Patented Mar. 31, 1896.



Witnesses
W. H. Linder

F. J. Benjamin

Inventor
John J. Merrill

By Attorney *Chas. J. Gooch*

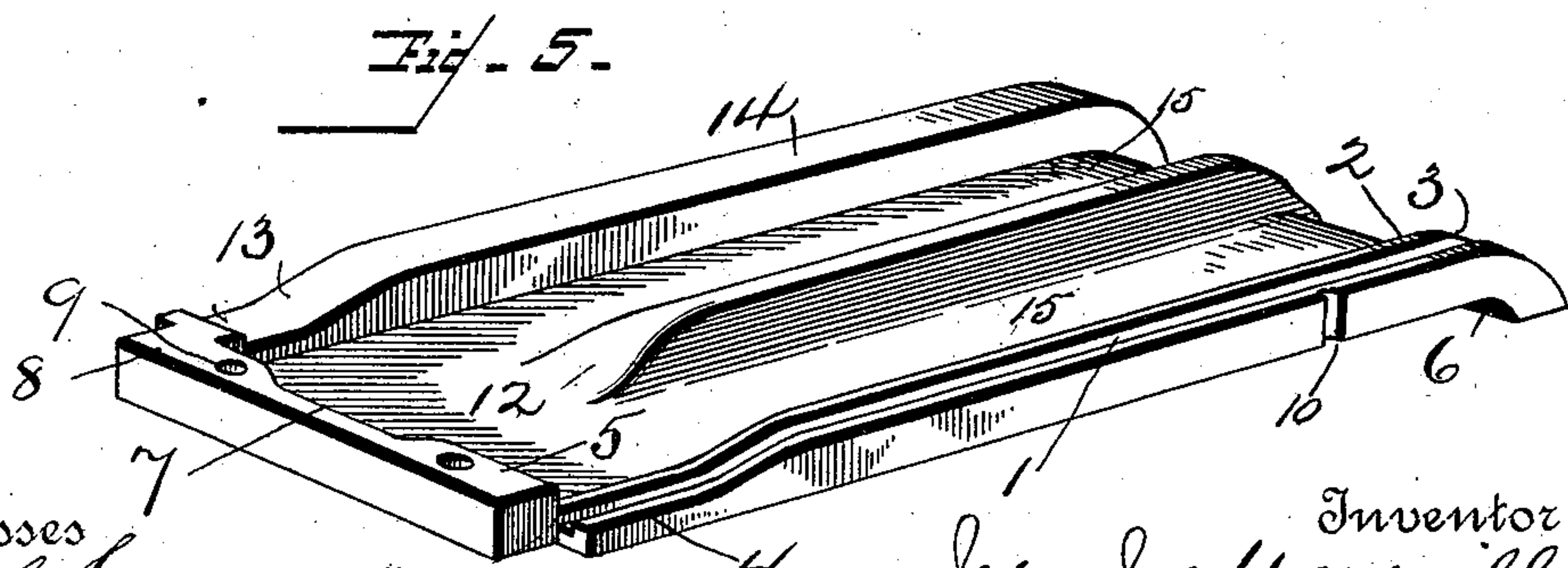
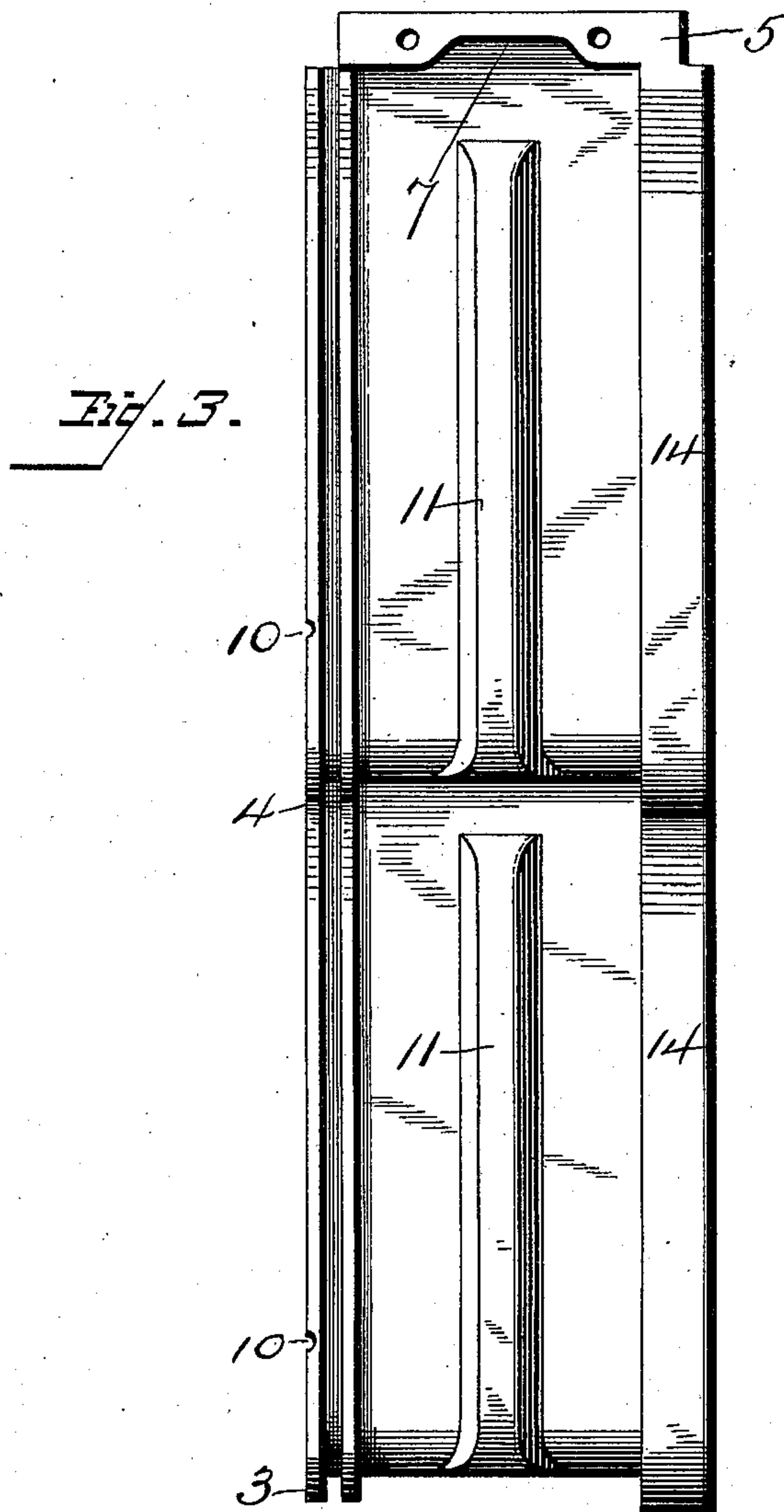
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2 Sheets—Sheet 2.

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Witnesses

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" *Wm. L. Laiden.*
" *F. Benjamin*

Inventor

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John J. Merrill
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UNITED STATES PATENT OFFICE.

JOHN JAKE MERRILL, OF ALFRED CENTRE, NEW YORK.

TILE.

SPECIFICATION forming part of Letters Patent No. 557,137, dated March 31, 1896.

Application filed September 23, 1892. Serial No. 446,744. (No model.)

To all whom it may concern:

Be it known that I, JOHN JAKE MERRILL, a citizen of the United States, residing at Alfred Centre, in the county of Allegany and State of New York, have invented certain new and useful Improvements in Tiles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements, as hereinafter described and claimed, in the construction of roofing-tiles, whereby the tiles of a course are provided with a novel method of securing them in place and have covered lock-joints having water sheds and conduits and superposed air spaces or chambers and setting-ribs, for the purposes hereinafter explained.

In the accompanying drawings, Figure 1 represents an under plan view of one of my improved tiles. Fig. 2 represents in top plan view a pair of my tiles jointedly connected at their sides and indicates the method of laying the first course. Fig. 3 represents in top plan view a pair of said tiles as connected at their ends and indicates the method of laying the upper courses. Fig. 4 is a transverse sectional view taken on the line *a a* of Fig. 2, showing the form of joint by which the tiles are connected at their sides. Fig. 4^a is an enlarged detail sectional view showing the form of joint by which the tiles are connected at their sides. Fig. 5 represents a perspective view of a tile as set for burning.

My improved roofing-tile is of somewhat peculiar formation. By reason of such formation the tiles can be set in pairs and tiers for burning in a manner admitting of the heat circulating over every portion, the connecting joints of the series in a course are covered without the necessity of the employment of half-tiles, the wind-blowing of rain that has descended upon said tiles is prevented, the filling and overflowing of the joints with water are prevented, and the tiles are readily and securely connected together and secured to the sheathing-boards at their top upper ends.

1 represents the water way or conduit, which consists of a longitudinal groove extending

from end to end of the tile, at one side edge thereof, said groove being guarded by upwardly-extending flanges or ribs 2, the lower ends of which and of the conduit curve downward, as shown at 3, to discharge the rain-water onto the tile below. The upper ends of said flanges or ribs 2 bevel downward and are of less height than the remaining portion, as shown at 4, for the purpose of affording a ready entrance of water into the conduit.

5 represents a lip or flange extending upwardly from the top face of the tile, at its upper end, with which the downward-curved lower end 6 of the tile of the adjacent course engages when the courses of tiles are laid. This lip or flange 5 has a central recess 7 for convenience in handling and has extending through its wider portions 8 openings 9 for the reception of nails or the like, by which the tiles are attached at their upper ends to the roof. Each tile has at its side a notch 10 to receive a nail or screw inserted in the roof to prevent displacement of the tiles.

11 represents a central rib or flange extending longitudinally along the top face of the tile from near its top end to its lower end, its upper end being beveled, as shown at 12, which construction, coupled with the beveled or dipped upper end of the water-conduit-guarding flanges and of the beveled or recessed upper end 13 of the joint-recover 14, to be presently described, not only provides a recess to receive the lower curved end of the tile of the upper course, but facilitates the passage of water dripping from said upper tile to its proper channels of conveyance. This central rib 11 is of mean height with the height of the flanges or walls 2 of the water-conduit 1 and of the joint-recover 14 and top lip or flange 5. This construction is of great utility in setting for burning as affording a steady and secure support for tiles piled on each other in the kiln. A further function of the rib 11 is that it prevents the wind-blowing of the rain and causes it to flow uninterruptedly down the tile to the downward-curved lower end 6, from whence the rain drops onto the upper free space 15 and from thence flows down the top face of the tile to the tile below and thence to the eaves trough or gutter. Each tile has at one side a flange 14

designed to cover the edge of an adjacent tile when the tiles are in place on a roof. The flange is raised slightly above the face of the tile and its outer edge is turned slightly downward. On the opposite side to that at which the flange is arranged each tile has a water-conduit 1. When tiles constructed according to my invention are laid, this flange extends over the intersection or joint between the several tiles of a course, as shown in Fig. 2 of the drawings, covering the waterway or conduit, preventing the overflowing of said conduit and, consequently, the passage of water between the meeting edges of the tiles. On the under side of this flange is a central depending rib 16, which is of less depth than that of the waterway 1, within which it is placed, so that an air space or chamber 17 is formed at that point. The flange also has on its under face an outer groove 18, having a beveled upper wall 19. These members 16, 19, and 26, with the waterway 1 and the ribs 2 2, constitute the joint by which the series of tiles have side connection, as clearly shown in Fig. 4 of the drawings. The outer rib 2 of the waterway engages with the groove 26, the depending rib 16 enters the waterway 1, and the inner rib 2 of the waterway engages with the groove 18; but inasmuch as this groove has an inwardly-tapering or beveled upper wall said rib 2 will extend only partly therein, thereby leaving an air-chamber 21 above said rib, which will prevent the capillary attraction of water and keep the joint from flooding. This flange extends outwardly a short distance beyond the waterway, as shown, so as to serve as a drip 22 to additionally guard the joint and prevent water falling on the top of the tile passing to and entering the joint at that point.

On the under side of the tile are represented two ribs or lugs 23, which, as shown in Fig. 1 of the drawings, serve as rests or supports for the superposed tile when set for burning. These ribs or lugs 23 are of mean height with the ends and serve to raise the upper tile so as to permit of the free circulation of the heated air.

In lieu of the plurality of the ribs or lugs 23 shown there may be a single one extending across, or nearly across, the under face of the tile, if desired.

The central recess 24 in the bottom of the tile is for the purpose of lightening it.

25 represents a bevel formed on the under face at the upper end of the tile for the purpose of insuring the upper end of the tile resting snugly upon the sheathing-board and permitting of the close and secure fastening of the tile thereto by simply two nails or screws.

It will readily be observed from the foregoing, in connection with the illustrations in the drawings, that perfect joints and connections are secured between the adjacent tiles of the respective courses; that no water-overflow between the several tiles is possible; that the water flows freely and unimpeded down the respective courses to the gutter or eaves-trough; that tiles constructed according to my invention have secure joint connection and easy and secure connection with and can be readily secured to and removed from the sheathing; that the wind-blowing of the rain on the tiles is prevented and that the setting for burning of said tiles is greatly facilitated.

Having thus described my invention, what I claim is—

A tile provided along one edge with raised ribs 2 forming a waterway 1, and along the other edge with a flange 14, having on its under face a depending rib 16 of less height than the waterway and fitting therein, the flange being also provided with an undercut groove 18 the under face of which is inclined downward and outward and is adapted to rest upon and overhang the inner edge of the inner rib, whereby when adjacent tiles are joined, an air-space 21 will be formed along the edge of the tile on a plane above that of the waterway, the ribs 2 and flange 14 being depressed at one end as at 4 and 13 respectively, and curved downward at the other end, as at 3, whereby when the tiles are joined end to end the depressed portion of one tile will receive the downward-bent end of the adjacent tile, and a thickened indented portion adapted to be covered by said downward-bent portion, substantially as described.

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

JOHN JAKE MERRILL.

Witnesses:

JOHN M. MOSHER,
FRANK SISSON.