W. S. PAULSON.

ICE WALKER.

APPLICATION FILED NOV. 9, 1907.

Patented Sept. 22, 1908.

899,065.

Fig. 1.

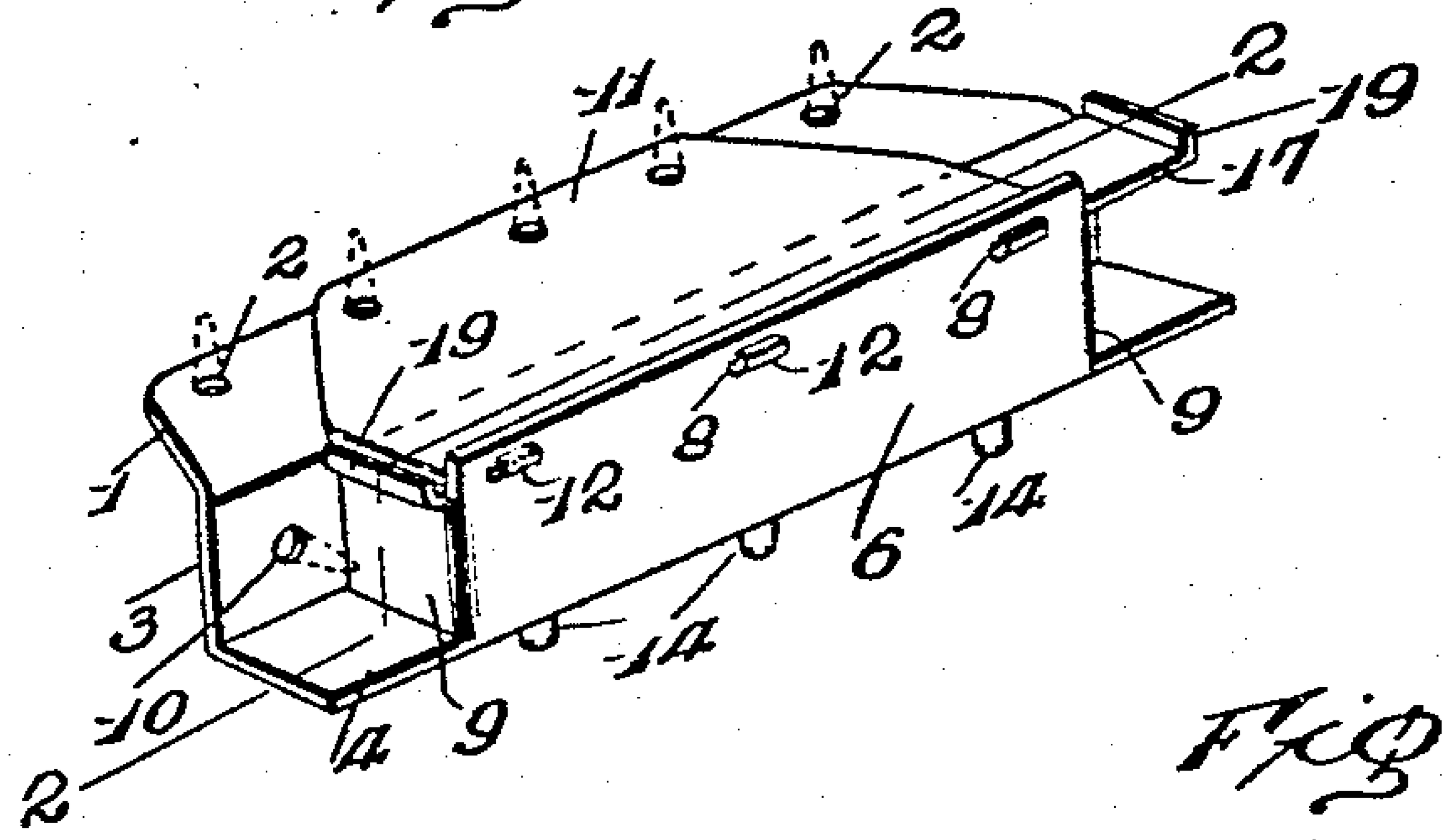


Fig. 3.

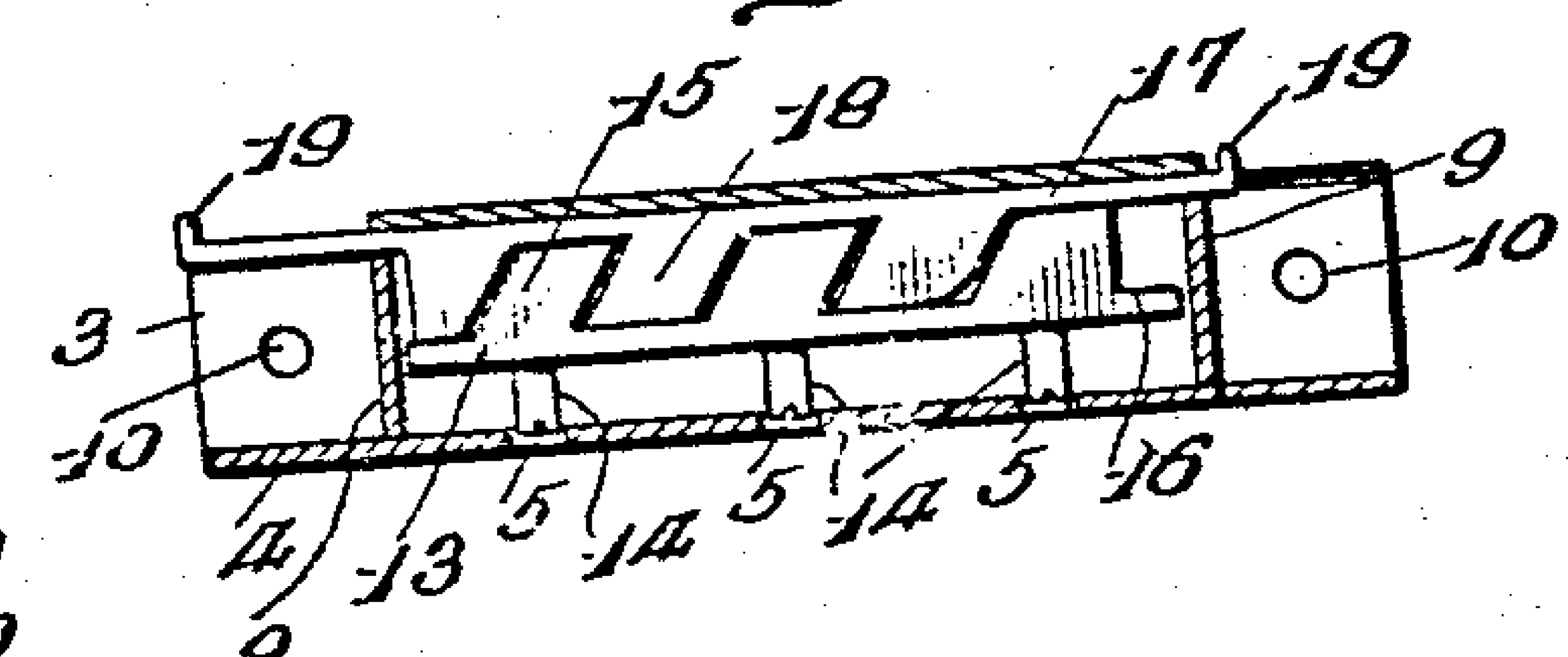


Fig. 2.

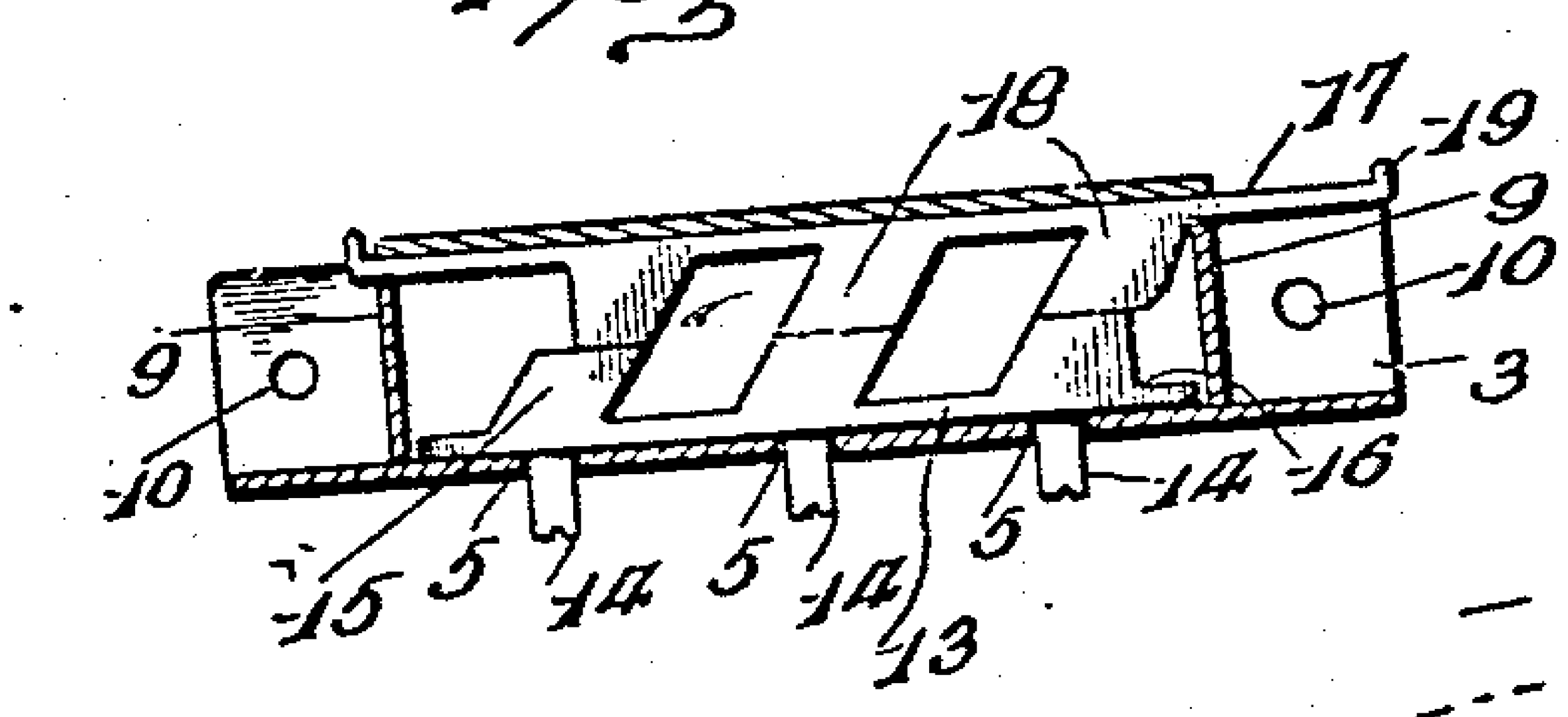


Fig. 4.

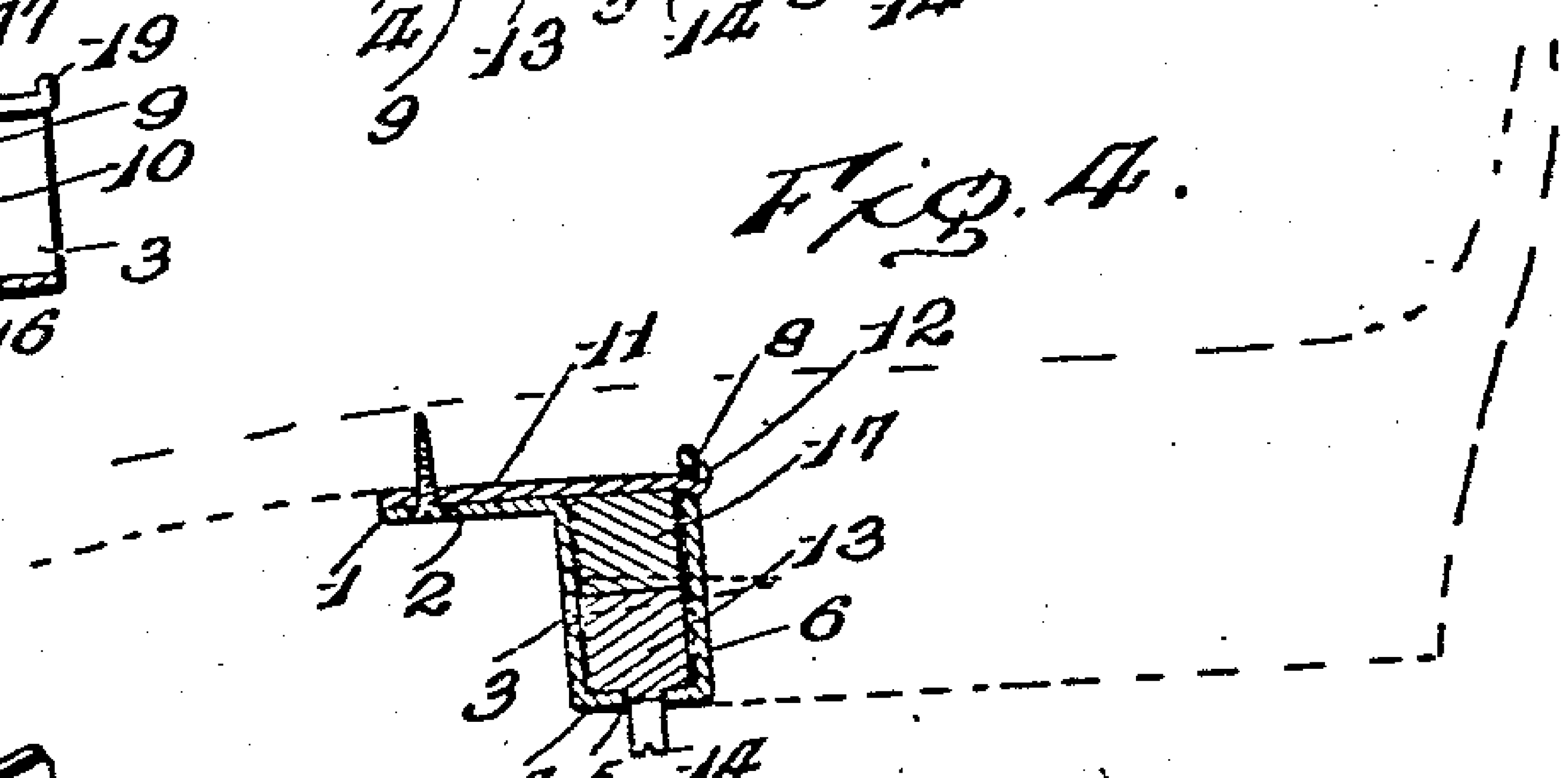


Fig. 6.

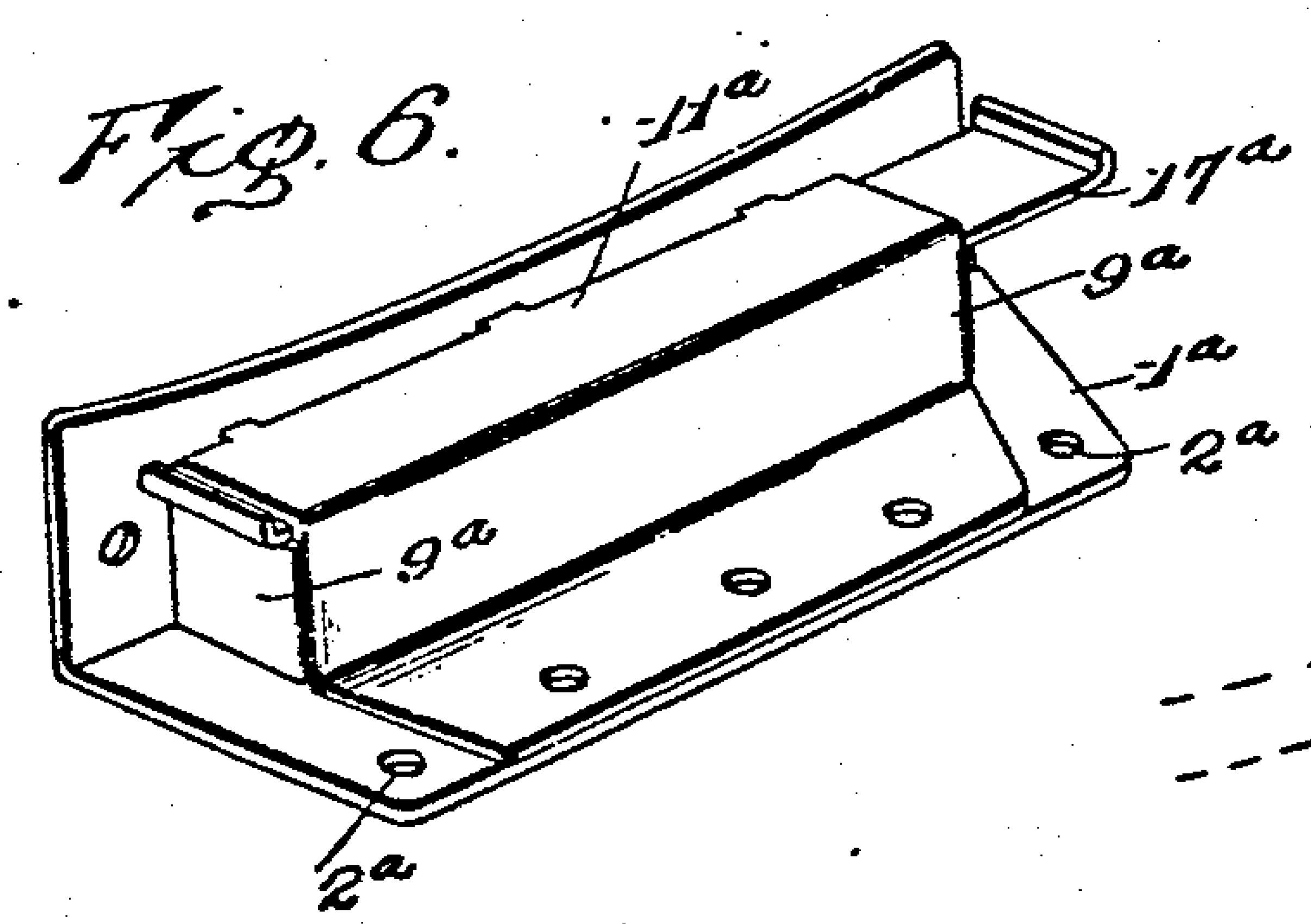


Fig. 7.

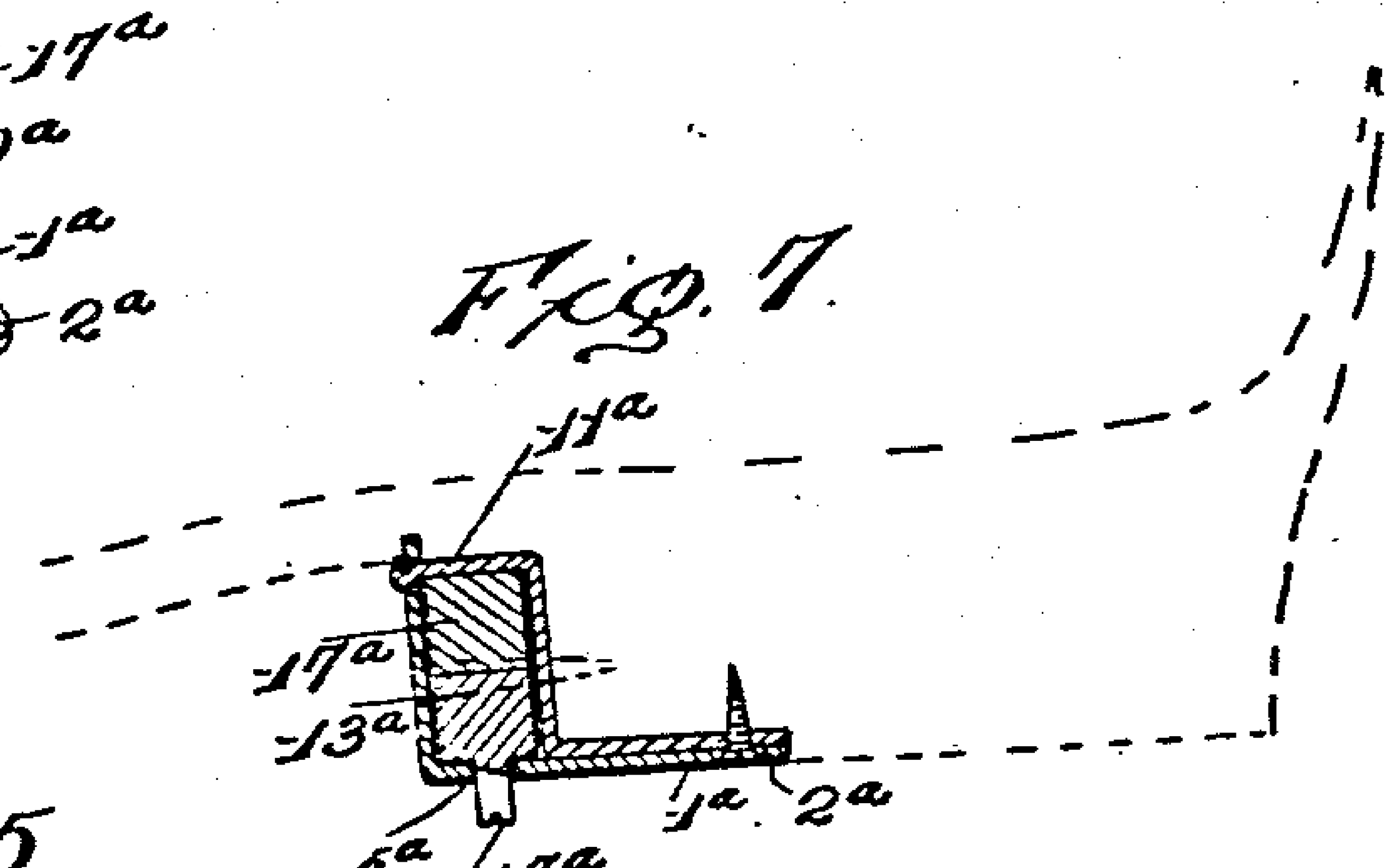
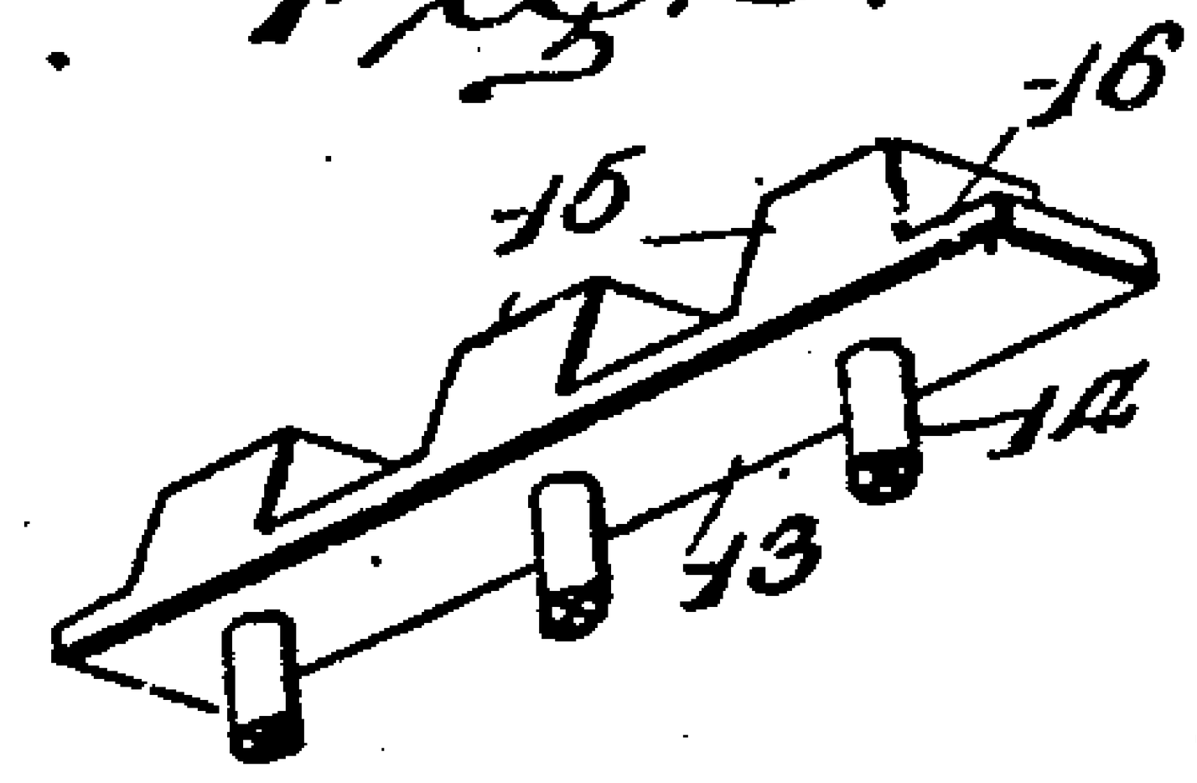


Fig. 5.



Inventor

W. S. Paulson

Witnesses

[signature]

W. T. Woodson

By [signature] Attorneys

UNITED STATES PATENT OFFICE.

WESLEY S. PAULSON, OF PITTSBURG, PENNSYLVANIA.

ICE-WALKER.

No. 899,065. Specification of Letters Patent. Patented Sept. 22, 1908.

Application filed November 9, 1907. Serial No. 401,504.

To all whom it may concern:

Be it known that I, WESLEY S. PAULSON, citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ice-Walkers, of which the following is a specification.

This invention comprehends certain new and useful improvements in anti-slipping devices for use as attachments to boots and shoes, and the invention has for its object a simple, durable and efficient construction of ice walker that may be cheaply manufactured and easily applied to the heel portion of a boot or shoe, and in which the parts are so arranged that the anti-slipping spurs may be projected or retracted at will, and held in either of these positions without the use of springs or similar accessories.

With this and other objects in view as will more fully appear as the description proceeds, the invention consists in certain construction and arrangement of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a perspective view of one form or embodiment of my improved anti-slipping device. Fig. 2 is a longitudinal sectional view thereof on the line 2—2 of Fig. 1. Fig. 3 is a similar view, but with the parts in different positions. Fig. 4 is a transverse sectional view of the device. Fig. 5 is a detail perspective view of one of the slides. Fig. 6 is a perspective view of another embodiment of the invention; and, Fig. 7 is a transverse sectional view of the device illustrated in Fig. 6.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

In that form of my invention illustrated in Fig. 1, the casing for the movable parts of my improved ice walking device, embodies an attaching flange 1, formed with a series of openings 2 for the reception of screws or similar fastening devices intended to secure the attachment to the shank portion of a boot or shoe, a vertically disposed portion 3, projecting in this case downwardly from the attaching flange, a portion 4 which extends outwardly or rearwardly from the portion 3 and which constitutes the bottom of the casing, said portion 4 being provided with a series of openings 5 for the passage of the anti-slipping spurs hereinafter described, and an upwardly extending portion 6 constituting the rear wall of the casing, said last named portion being provided with an extended edge formed with openings 8. The end portions of the upwardly extending portion 6 are bent forwardly and soldered, as indicated in the drawing, to form ends 9 of the casing. Beyond these ends 9, the portion 3 of the casing is formed with openings 10, designed to receive screws or similar fastening devices to assist in holding the device attached to the foot gear.

11 designates the top plate of the casing which is formed at its inner edge with lugs 12 designed to enter the openings 8, said top plate being formed in its opposite edge with openings coinciding with the openings 2 so that the fastening devices that secure the attaching flange 1 in place will pass through the openings in the top plate and hold the latter in place also.

A laterally movable slide plate 13 is mounted inside of the casing and is provided with spurs 14 extending through the openings 5, the said spurs being serrated or otherwise roughened on their extremities. Said slide plate 13 is also provided on its opposite face with undercut cams 15 the edges of which are slightly shouldered as indicated at 16. A longitudinal slide 17 is provided with cams 18 designed to coact with the cams 15 and formed correspondingly thereto, the said cams interlocking and coacting in such manner with the cams of the slide plate 13 as to manifestly effect the lateral movement of the slide 13 to project or retract the spurs 14. The ends of the longitudinal slide are slightly offset, as indicated at 19, and they pass through spaces between the top plate 11 and the ends 9 of the casing, as clearly indicated in the drawing, the opposite ends frictionally engaging the walls of said spaces and limiting the movement of the slide 17 in one direction or the other by abutment against the side edges of the said top plate 11. Preferably this embodiment of the invention is fastened to both the shank and the heel of the shoe, as clearly illustrated in the drawing, this location of the device tending to avoid noise when walking on hard surfaces.

In the practical use of the device, it is evident from the foregoing description in con-

nection with the accompanying drawing that the laterally movable slide 13 with its undercut cams will be moved by the longitudinal movement of the corresponding slide 17 at the will of the operator to hold the spurs 14 either retracted in the openings 5, when the device is not desired for use, or may be held projected from the openings, so as to effectively engage the ice or otherwise slippery surfaces over which the person is walking, whereby to secure a firm foot hold.

In that embodiment of the invention illustrated in Fig. 6 the casing for the slides embodies an attaching flange 1^a formed with openings 2^a for fastening screws or nails and also formed with openings 5^a for the passage of the spurs 14^a of the slide 13^a. This slide is formed correspondingly to the slide 13 above mentioned, and its coacting slide 17^a is formed correspondingly to the slide 17. In this modification of the invention, however, the top plate 11^a forms one side and the two ends 9^a of the casing. Preferably this last described device is to be set in the front part of the heel flush with it, and nailed or screwed on.

On very low heels it is obvious that it may be necessary to put on a piece of leather, and if the heel is very high a piece of leather may be fitted and fastened under the shank of the shoe to give the proper support.

It is to be particularly noted that by the construction of undercut cams of the slides 13 and 17, the slide 17 in one position will hold the other slide retracted, without the use of springs, set screws or other independent devices.

Having thus described the invention, what is claimed as new is:

1. A device of the character described comprising a casing provided in its bottom with openings, a plate mounted in said casing and of a length to fit against the ends thereof, said plate being thereby guided for a movement laterally in the casing, that is, directly away from and towards the bottom thereof, said plate being provided on its bottom side with spurs adapted to project from the openings in the bottom of the casing, and on its opposite side with a plurality of undercut cams all facing in the same direction, and a longitudinally movable plate mounted to slide in the casing, and provided with a plurality of undercut cams, coacting with the cams of the first named plate.

2. A device of the character described comprising a casing provided at its bottom with openings, a plate mounted in said casing and movable bodily towards and away from the bottom and formed with spurs adapted to project through said openings, and a longitudinally movable slide plate mounted in the casing and arranged, upon its movement in one direction, to force the first named slide plate in a direction to project its spurs through said openings, the two slide plates being provided with a plurality of undercut cams, the cams of one plate facing in the same direction and oppositely to the cams of the other plate, the two sets of cams being arranged for an interlocking engagement adapted to hold the laterally movable plate retracted in the casing upon the movement of the longitudinally movable slide plate in the opposite direction.

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

WESLEY S. PAULSON. [L. S.]

Witnesses:

GEORGE H. LADLEY,

ALFRED A. BATCHELOR.