

No. 637,752.

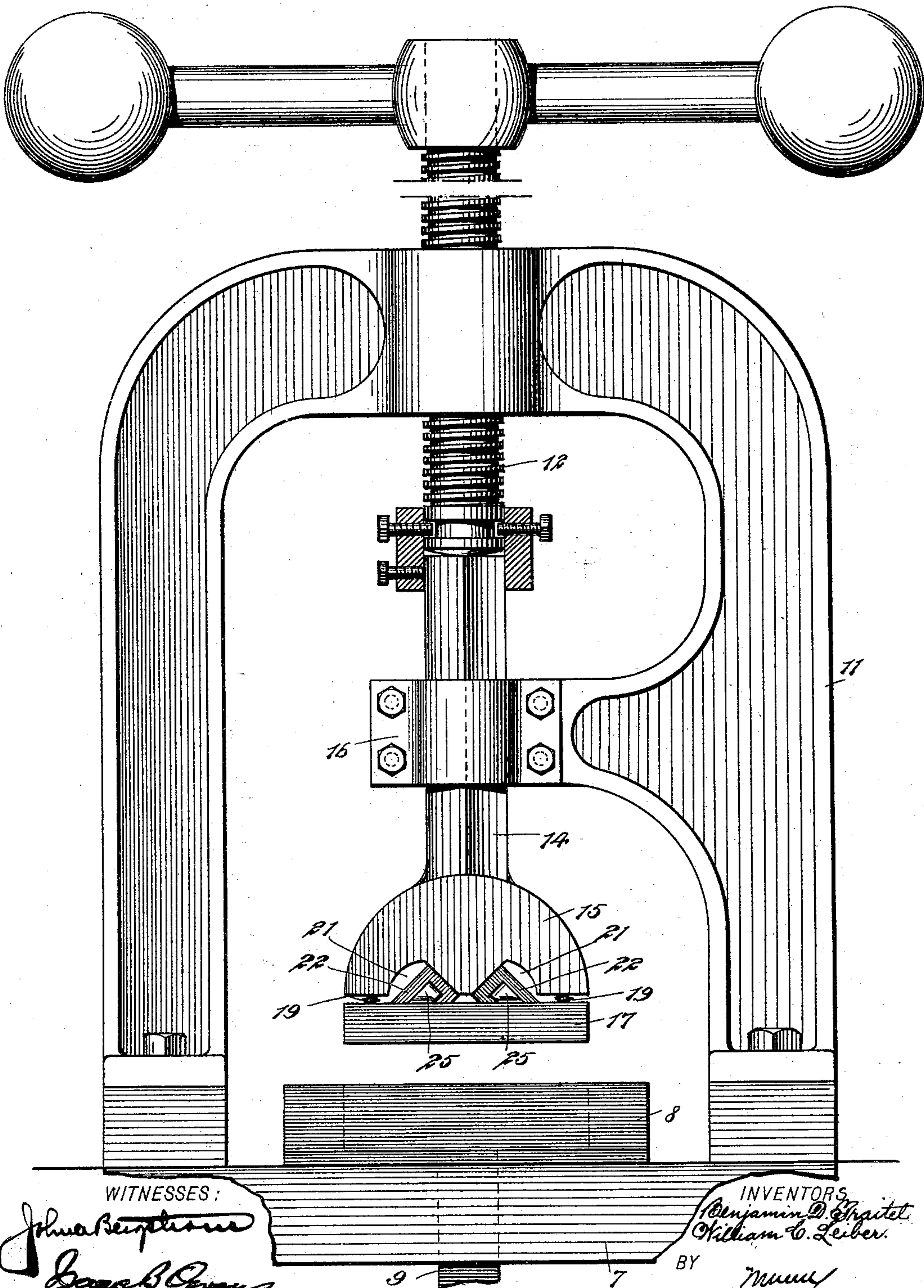
Patented Nov. 21, 1899.

B. D. TRAITEL & W. C. LEIBER.
PLUNGER HEAD FOR TILE PRESSES.

(Application filed Feb. 11, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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INVENTORS:

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Fig 1

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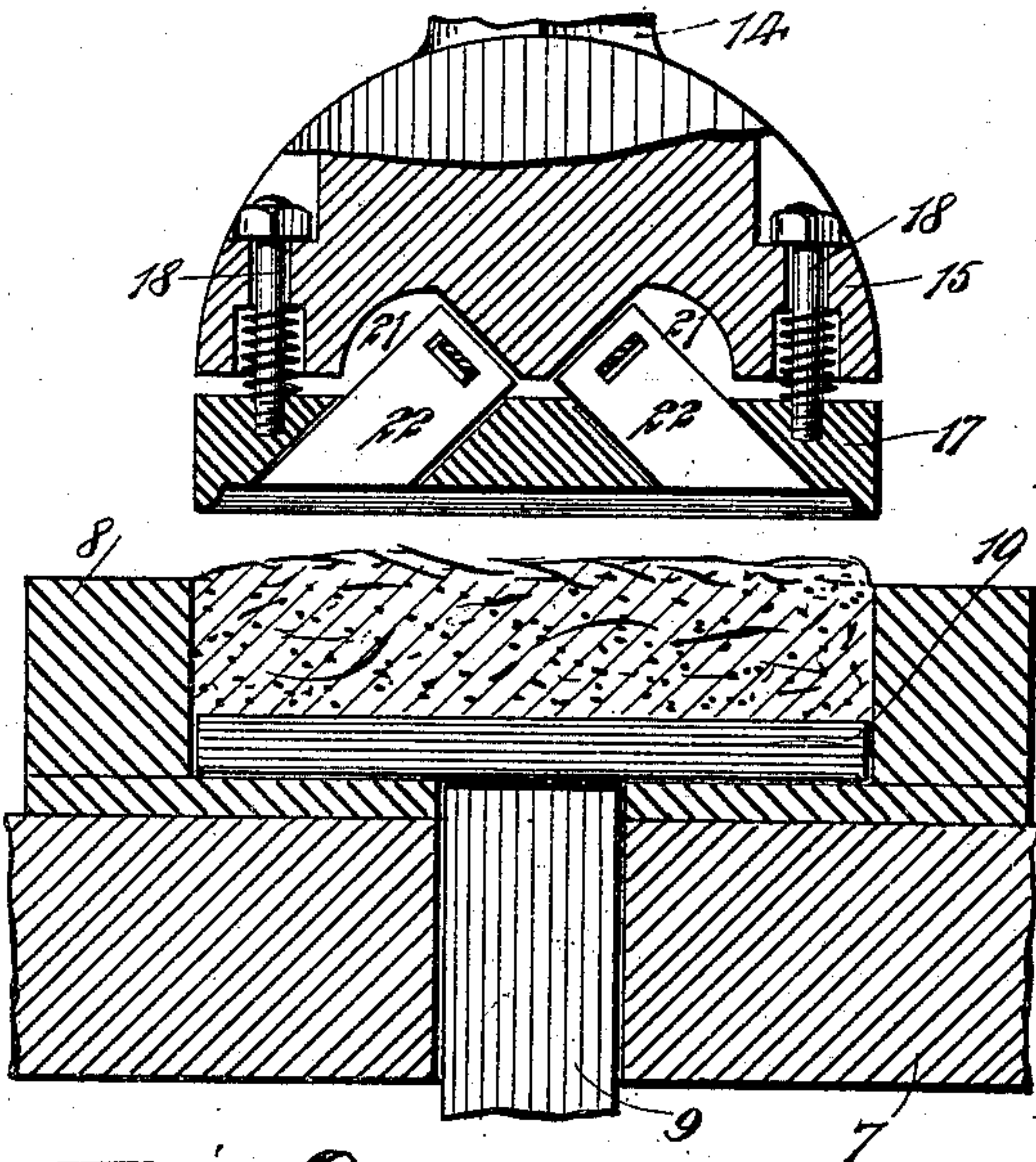


Fig. 2

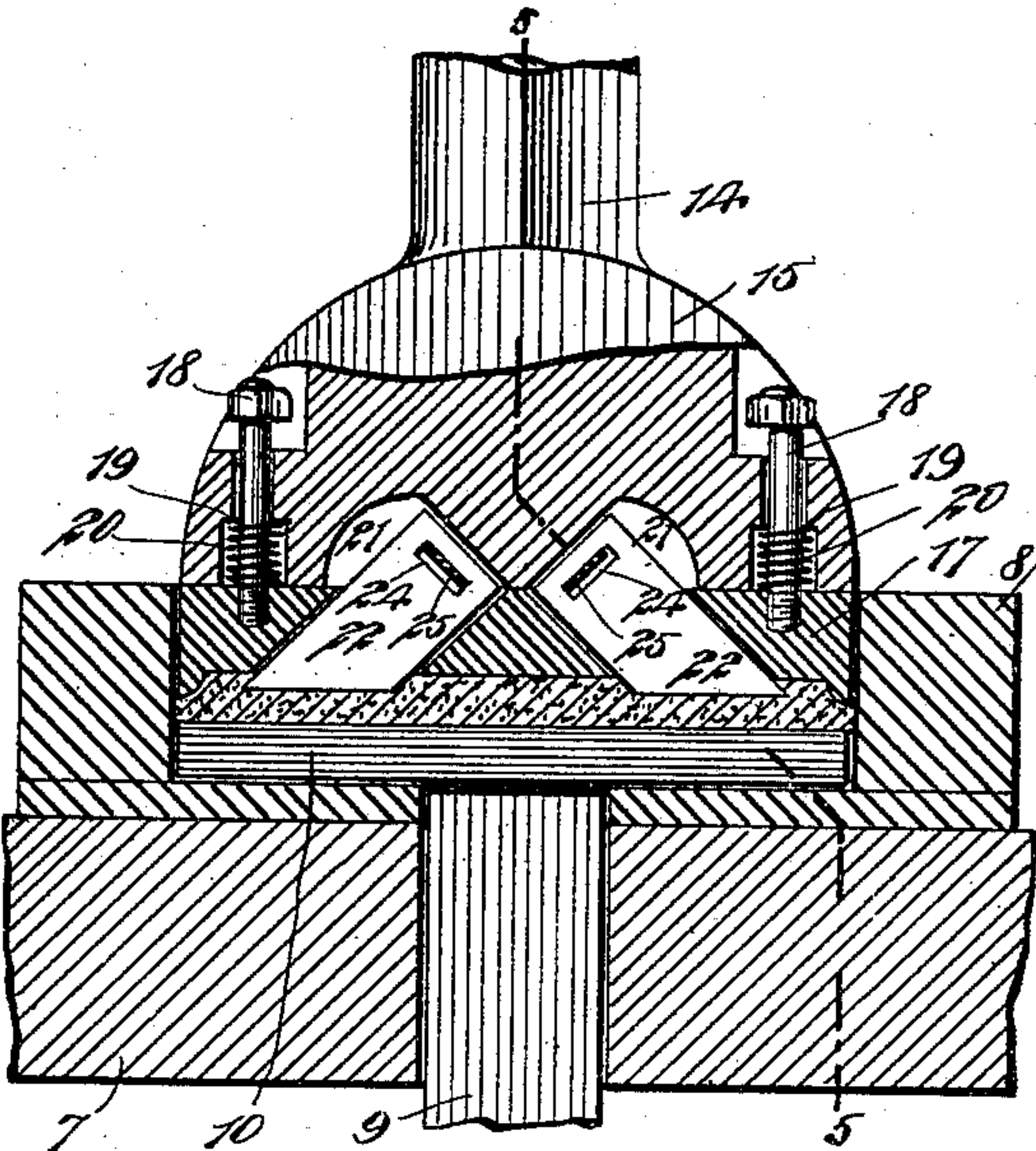


Fig. 3

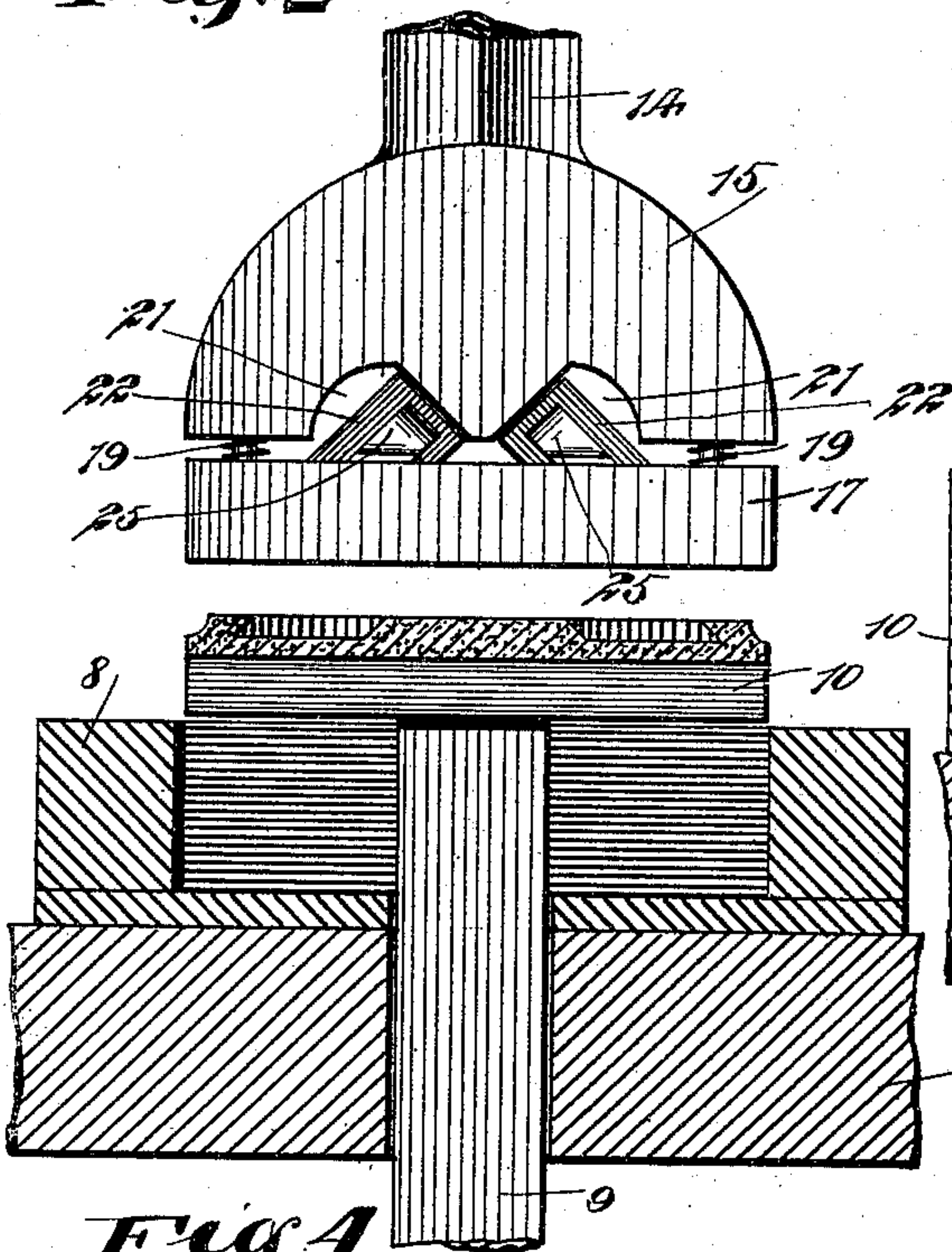


Fig. 4

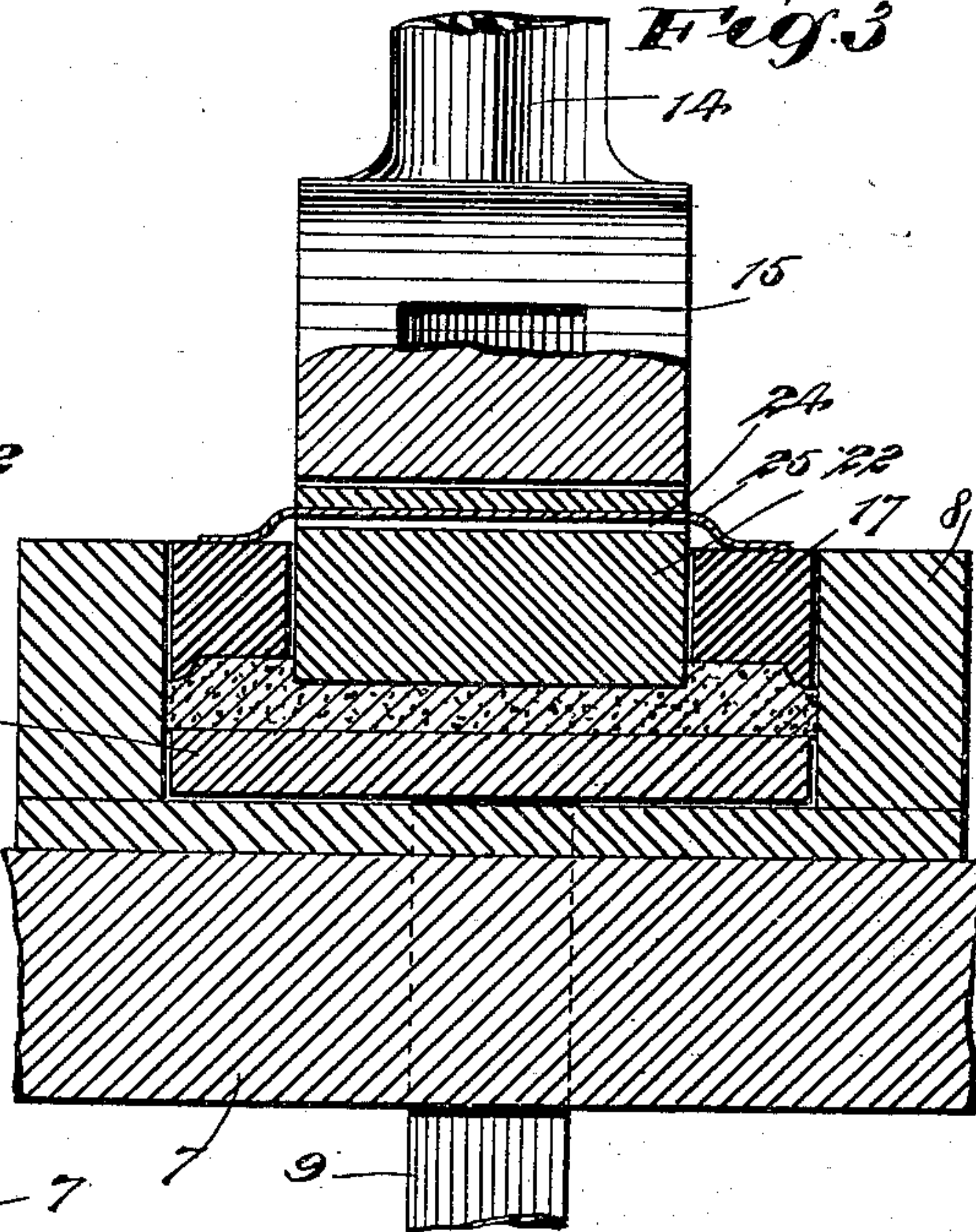


Fig. 5

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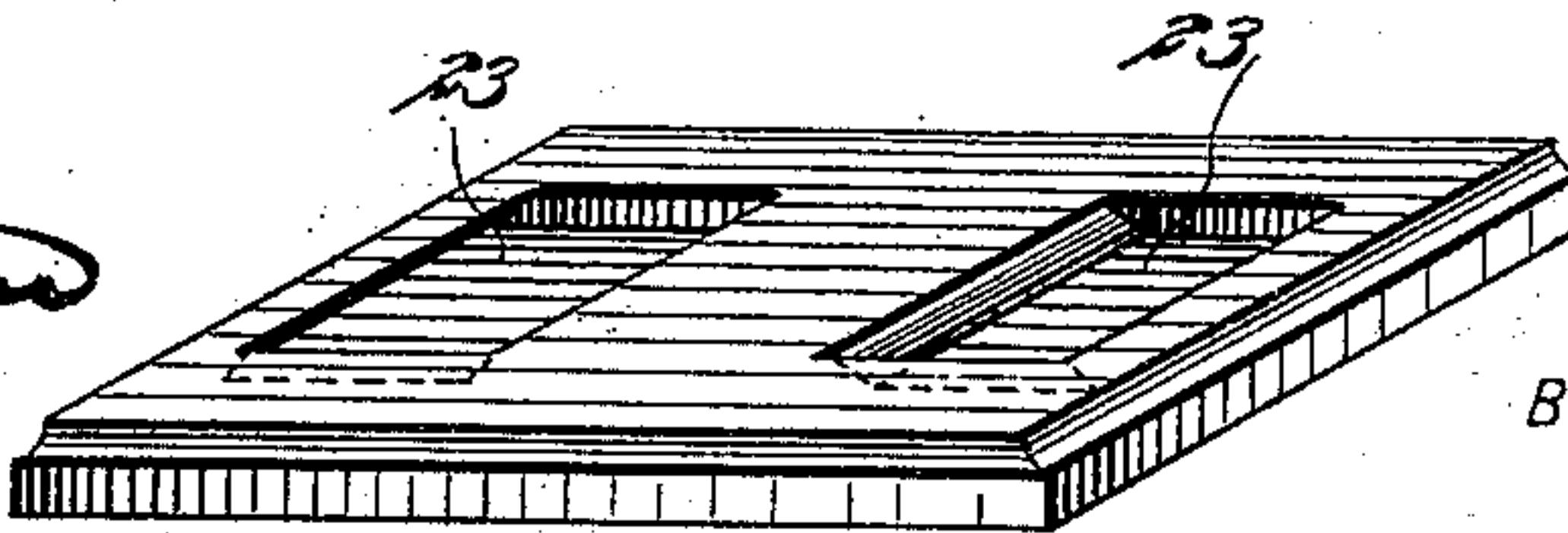


Fig. 6

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UNITED STATES PATENT OFFICE.

BENJAMIN DAVID TRAITEL AND WILLIAM CHARLES LEIBER, OF NEW YORK, N. Y., ASSIGNORS TO TRAITEL BROTHERS & CO., OF SAME PLACE.

PLUNGER-HEAD FOR TILE-PRESSES.

SPECIFICATION forming part of Letters Patent No. 637,752, dated November 21, 1899.

Application filed February 11, 1899. Serial No. 705,291. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN DAVID TRAITEL and WILLIAM CHARLES LEIBER, of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Plunger-Head for Tile-Presses, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide a tile-press with a plunger-head which will form a tile with undercut depressions in one face thereof, so that the cement or bonding material may be forced into these depressions to effectively hold the tiles in the setting.

This specification is the disclosure of one form of our invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the press. Fig. 2 is an enlarged detail section taken through the mold and plunger, showing the plunger in position to descend upon the mold. Fig. 3 is a similar view, except that the plunger is shown pressed into the mold to form the tile. Fig. 4 is a similar view, except that the plunger is shown raised, and the tile is also shown raised by the ejector. Fig. 5 is a detail section of the same parts on the line 5 5 of Fig. 3, and Fig. 6 is a perspective view of the finished tile.

The tile-press has a bed 7, carrying the mold 8. Working vertically in the bed is bar 9, carrying the ejector 10, which is movable vertically in the mold and on which the tile is formed and by which the tile when formed is raised out of the mold, as shown in Fig. 4. Mounted in a framing 11, sustained on the bed 7, is a pressure-screw 12, having connection with the plunger-bar 14, at the lower end of which is rigidly held the plunger-head 15. By working the screw 12 the plunger may be raised and lowered. The plunger-bar 14 is held to slide in a box 16, carried on the framing 11.

The plunger-head 15 supports a die-plate 17 by means of bolts 18, rigidly attached to the die-plate and sliding in the plunger-head.

The die-plate is pressed away from the plunger-head by expansive springs 19, encircling the bolts 18 and situated in cavities 20, formed in the plunger-head. This die-plate moves with the plunger and is adapted to enter the mold, as shown in Figs. 3 and 5, to form the tile. Formed in the under side of the plunger-head 15 are two transversely-elongated cavities 21, extending throughout the width of the plunger-head. These cavities respectively receive the upper ends of plugs 22, which are respectively fitted to slide in diagonally-extending passages formed in the die-plate 17. The lower ends of the plugs 22 are disposed diagonally with respect to the sides of the plugs, so that the plugs in moving longitudinally of themselves will enter the clay-dust forming the tile to produce the depressions 23 in the tile, (see Fig. 6,) which depressions have undercut outer side walls. The upper end of each plug 22 is formed with a transversely-disposed opening 24, and these openings respectively receive the springs 25, the ends of which project beyond the sides of the plugs and plunger-head and are twisted so as to bring them into position to bear against the upper face of the die-plate 17. The springs 25 tend to throw the plugs 22 upward into the position shown in Figs. 2 and 4 and also reacting against the die-plate 17 to throw the die-plate downward. In the normal position of these parts, therefore, the diagonal lower ends of the plugs are in a plane with the under face of the die-plate.

In the operation of the press the stock or clay-dust is placed in the mold, as shown in Fig. 2, and the plunger is moved downward, so that the die-plate is forced into the mold to form the tile in the manner shown in Figs. 3 and 5. As the die-plate engages the clay-dust the die-plate is forced up against the action of the springs 25; but the plugs 22, bearing solidly against the plunger-head, do not move relatively to the plunger-head, and consequently the lower ends of the plugs are left projecting below the die-plate, so that the depressions 23 are produced in the face of the tile. Then when the pressure on the plunger is relaxed and the ascent of the plunger begins the plunger-head, with the plugs 22, first moves upward, the springs 19 and 25 serving

momentarily to keep the die-plate engaged with the tile. This movement continues until the lower ends of the plugs are in plane with the lower face of the die-plate, whereupon the bolts 18 act to lift the die-plate. By these means the plugs 22 are withdrawn from the undercut depressions formed by them without disturbing the walls of the depressions. The tile is then forced out of the mold by the ejector, as illustrated in Fig. 4.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination of a mold, a plunger having a head with a cavity therein, a die-plate yieldingly sustained on the head, a plug fitted to move diagonally in the die-plate, the upper end of the plug being projected in the cavity of the plunger-head and bearing against the plunger-head, and a spring passed transversely through the upper end of the plug and having its ends twisted to bear on the upper face of the die-plate, whereby to raise the plug with respect to the die-plate.

2. The combination with a plunger-head, and an apertured die-plate yieldingly held to the plunger-head, of a plug yieldingly held in the plunger-head and working in the aperture of the die-plate, substantially as described.

3. The combination with a recessed plunger-head, and a die-plate yieldingly held to the plunger-head and having a diagonal opening leading through it, of a plug yieldingly held in the recess of the plunger-head and projecting into the opening of the die-plate, the plug having a diagonal outer end, substantially as described.

4. The combination with a recessed plunger-head, and an apertured die-plate yieldingly held to the plunger-head, of a plug hav-

ing its inner end projecting in the recess of the plunger-head and its outer end into the aperture of the die-plate, the inner end of the plug being provided with an opening, and a spring passing through the opening of the plug and having its ends resting upon the die-plate, substantially as described.

5. The combination with a plunger-head having recesses in its under side, said recesses extending throughout the width of the plunger-head, of a die-plate yieldingly held to the plunger-head and provided with diagonal openings, plugs having their inner ends in the recesses of the plunger-head and their outer ends in the openings of the die-plate, the outer ends of the plugs being beveled and their inner ends apertured, and springs passing through the apertures of the plugs and having their ends resting upon the die-plate, substantially as described.

6. The combination with a plunger-head having its under side provided with recesses, said recesses extending throughout the width of the plunger-head, of a die-plate provided with diagonal openings, bolts secured to the die-plate and projecting through the plunger-head, springs encircling the bolts, plugs having their inner ends in the recesses of the plunger-head and their outer ends in the openings of the die-plate, the outer ends of the plugs being beveled or inclined and their inner ends provided with openings, and springs passing through the openings of the plugs and having their ends bent downward and resting upon the die-plate, substantially as herein shown and described.

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Witnesses:

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