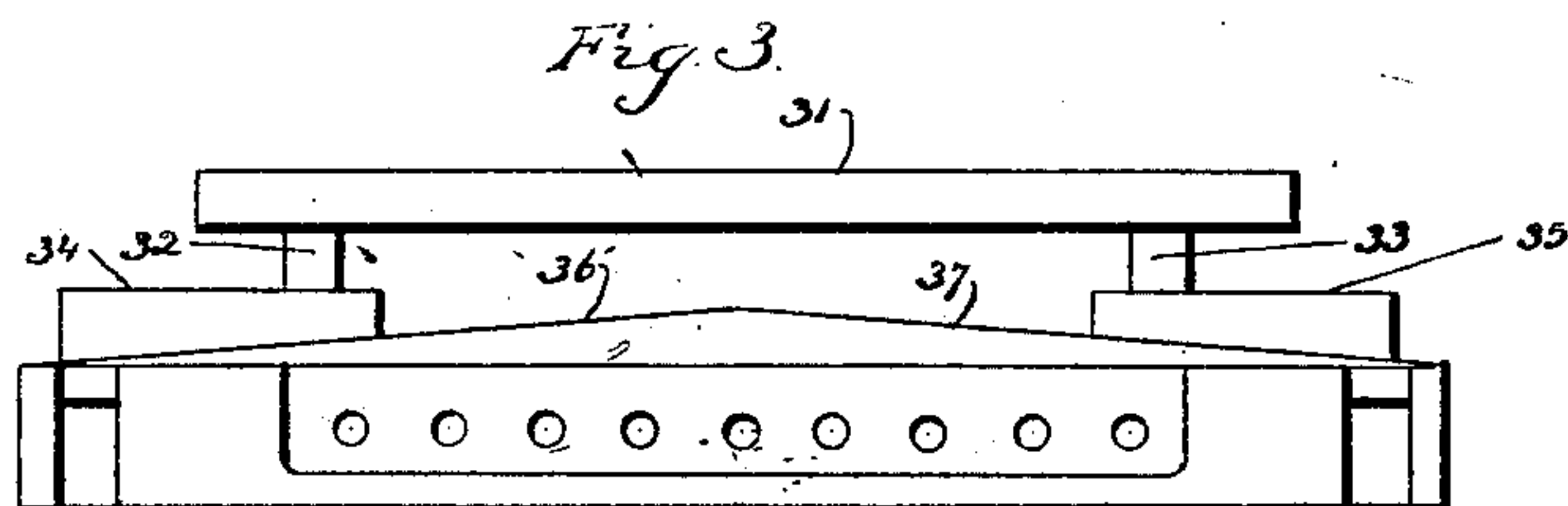
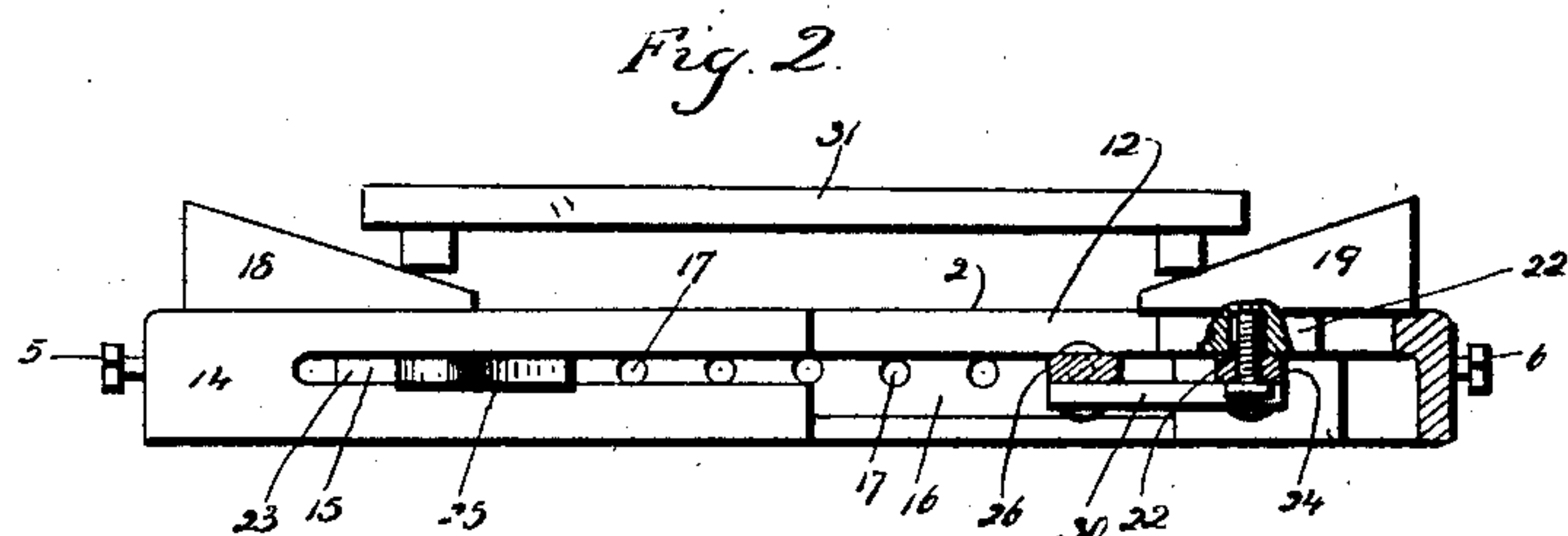
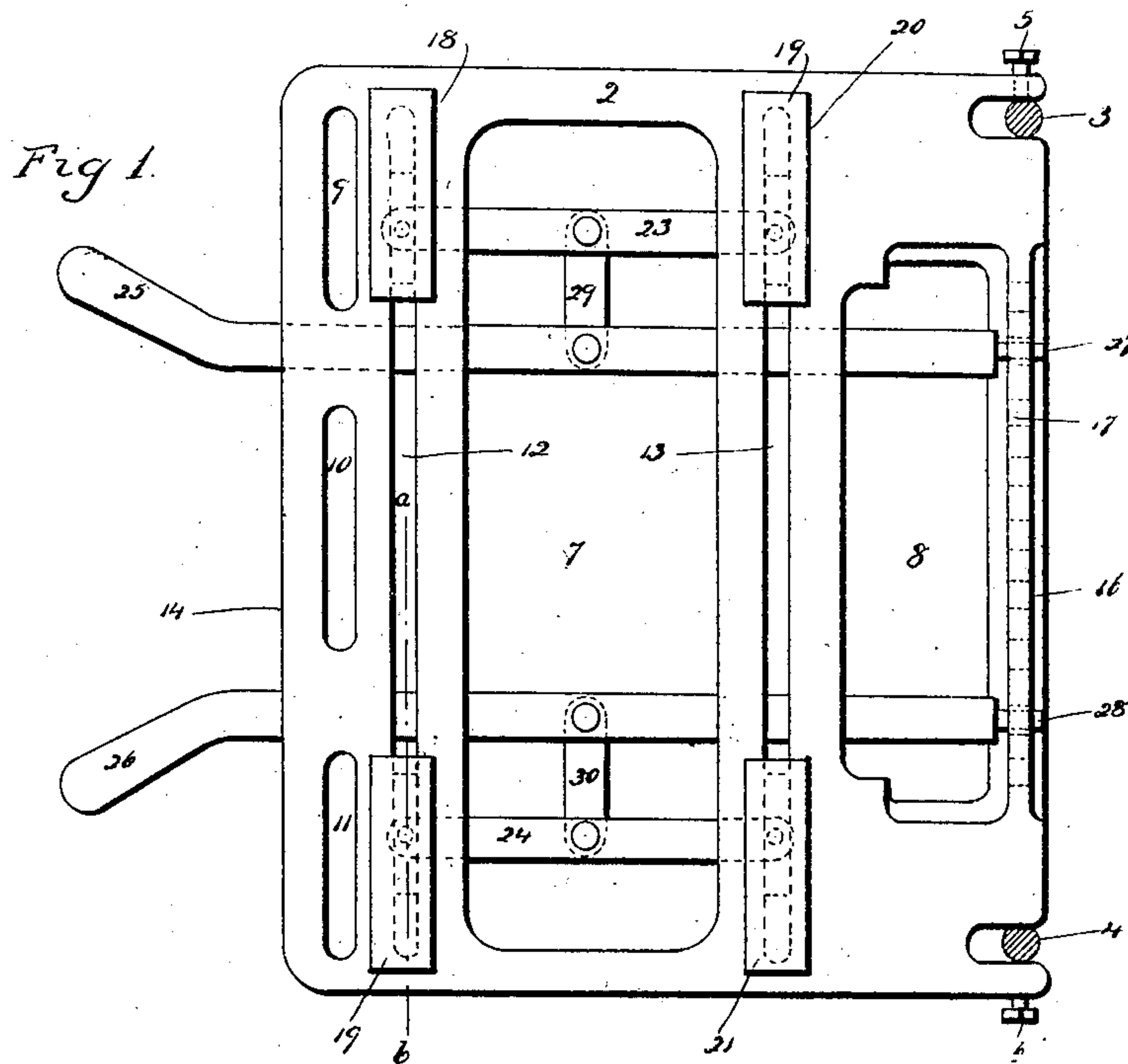


W. BYLUND.
 BOTTOM BOARD TIGHTENER FOR MOLDING MACHINES.
 APPLICATION FILED MAR. 23, 1908.

898,433.

Patented Sept. 15, 1908.



Witnesses,
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UNITED STATES PATENT OFFICE.

WALTER BYLUND, OF DERBY, CONNECTICUT, ASSIGNOR TO BIRMINGHAM IRON FOUNDRY,
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BOTTOM-BOARD TIGHTENER FOR MOLDING-MACHINES.

No. 898,433.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed March 23, 1908. Serial No. 422,861.

To all whom it may concern:

Be it known that I, WALTER BYLUND, a citizen of the United States, residing at Derby, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Bottom-Board Tighteners for Molding-Machines; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a top or plan view of a bottom board tightener for molding machines constructed in accordance with my invention. Fig. 2 an edge view partially in section on the line *a—b* of Fig. 1. Fig. 3 a rear view of a modification in the form of the wedges.

This invention relates to an improvement in bottom board tightener for molding machines.

In the usual construction of molding machines, the flask usually rests upon a bottom board and when the molding is finished the flask is raised from the bottom board or the flask is held and the bottom board lowered away from it. In either case it is necessary that this board should be in a plane parallel with the plane of the flask, consequently before the board and flask are separated they should be strictly in line, and the object of this invention is to produce a tightener which will hold the board in proper relation to the flask so that when they are separated one will be drawn away from the other in a direct line so as not to injure the mold; and the invention consists in the construction hereinafter described and particularly recited in the claims.

In carrying out my invention I employ a horizontal bed or plate 2 adapted to be secured to a molding machine of usual construction not herein shown except the vertical posts 3 and 4 to which the plate 2 is secured by set screws 5 and 6. Preferably and as herein shown the face of the plate 2 is formed with openings 7, 8, 9, 10 and 11 to lighten it. The plate is also formed with long transverse slots 12 and 13, and with a depending flange the front portion 14 of which is formed with a longitudinal slot 15 while the rear wall 16 is formed with a series

of perforations 17 for the purpose as will hereinafter appear. Mounted in the slots 12 and 13 are four bevel face wedges 18, 19, 20 and 21 these wedges having projections 22 on their under faces which ride in the slots 12 and 13, and the wedges at opposite sides of the boards are connected together, thus the wedges 18 and 20 are connected by a bar 23, and the wedges 19 and 21 by a bar 24. Extending through the slot 15 are levers 25 and 26 having their inner ends 27 and 28 reduced in size and adapted to pass through the perforations 17, and the lever 25 is connected with the bar 23 by a link 29, while the lever 26 is connected with the bar 24 by a link 30 and so that by moving the levers the wedges will be correspondingly moved, and owing to the connection which is similar to a swivel connection between the levers and the bars the wedges have a certain amount of independent movement. When the bottom board 31 rests upon the beveled faces of the wedges 18, 19, 20 and 21, and the levers 25 and 26 are drawn together, the several wedges will be moved into contact with the bottom board so as to force it against the flask, and should one of the wedges 19 or 21 first come to a stop, the continued movement of the lever will draw the other wedge into close contact, and the same, of course, applies to the wedges 18 and 20. When one wedge comes to a bearing it forms a fulcrum for the leverage applied to the other wedge. The provision of the perforations 17 permits the levers to be inserted into any of the series according to the width of the board to be clamped.

While I have referred to the engagement of the wedges with the bottom board, it will be understood that they may engage directly with the edge of the flask if no board is present. The wedging function will be the same in either case. In some instances the board 31 is provided on its under face with cleats 32 and 33, and to give a better bearing for these cleats instead of forming the wedges with beveled upper faces, as before described, they may be formed with flat upper faces 34 and 35, as shown in Fig. 3 of the drawings in which case the face of the plate 2 will have inclines 36 and 37 corresponding to the inclination of the under face of the wedges and so that when the wedges are drawn together they will ride up the incline and furnish a

firm support beneath the cleats of the mold board. It will thus be seen that provision is made for bringing the mold board or flask into a horizontal position so that a pattern can be drawn without possible danger of injuring the mold.

I claim:—

1. A bottom board tightener for molding machines comprising a horizontal plate having slots, wedges arranged in said slots, bars connecting the wedges at opposite sides of the plate, levers mounted beneath the said plate, and links connecting said bars and levers, substantially as described.

2. A bottom board tightener for molding machines comprising a horizontal plate having two transverse slots, levers adjustably mounted beneath said plate, two reversely beveled wedges in each of said slots, the wedges at each end connected by bars, and links connecting the bars and levers at oppo-

site sides of the plate, substantially as described.

3. A bottom board tightener comprising a horizontal plate adapted to be connected with a molding machine, said plate formed with transverse slots, a flange having slots at the front and perforations at the rear levers extending through the slot in the flange and into the perforations in the opposite flange, two reversely beveled wedges in each of said slots, the two wedges at each side connected by bars, and links connecting said levers and bars, substantially as described.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

WALTER BYLUND.

Witnesses:

WM. B. MARVIN,
ADA E. ROTTECK.