

No. 673,409.

Patented May 7, 1901.

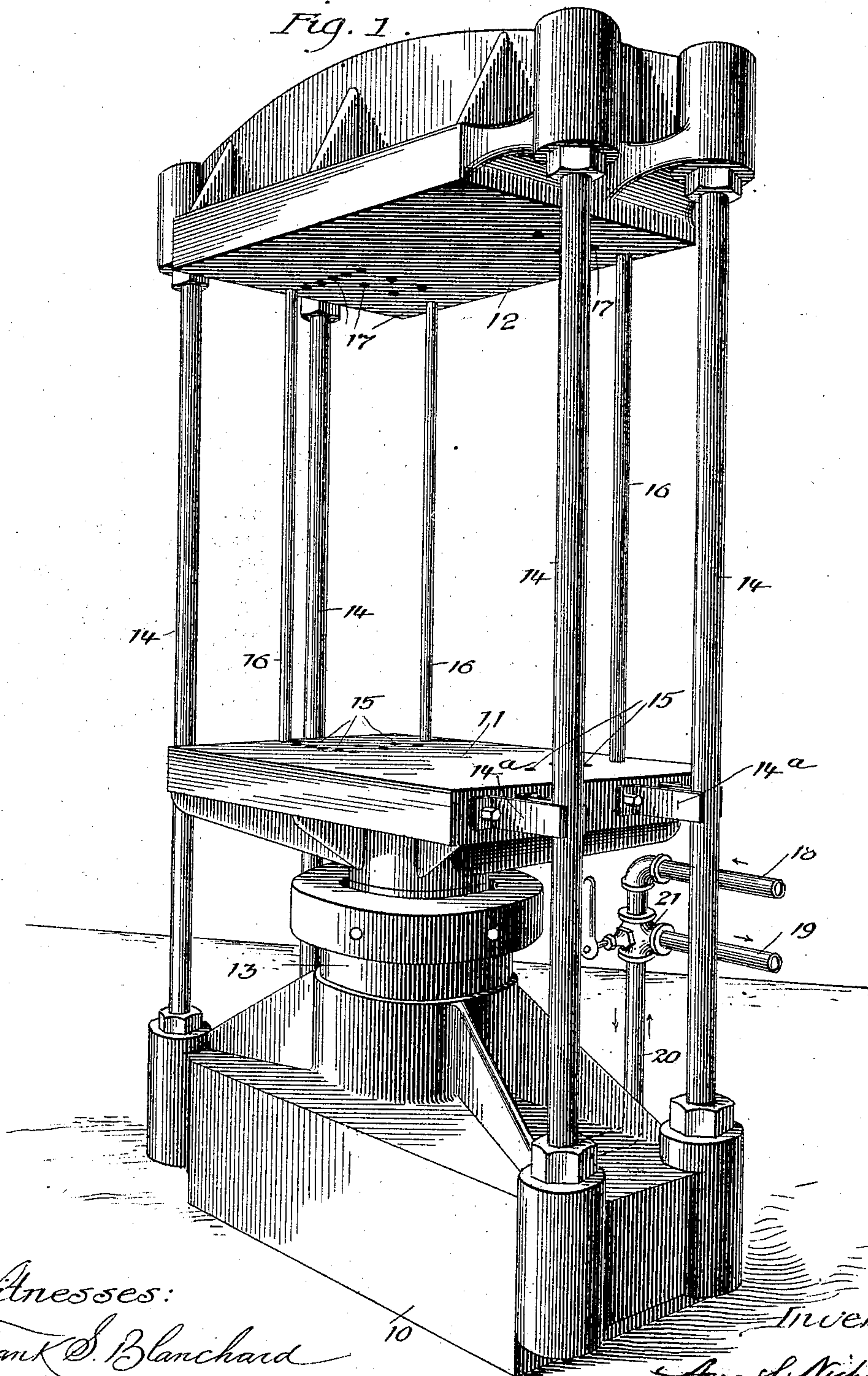
A. S. NICHOLS.  
GLUE PRESS.

(Application filed Apr. 4, 1900.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



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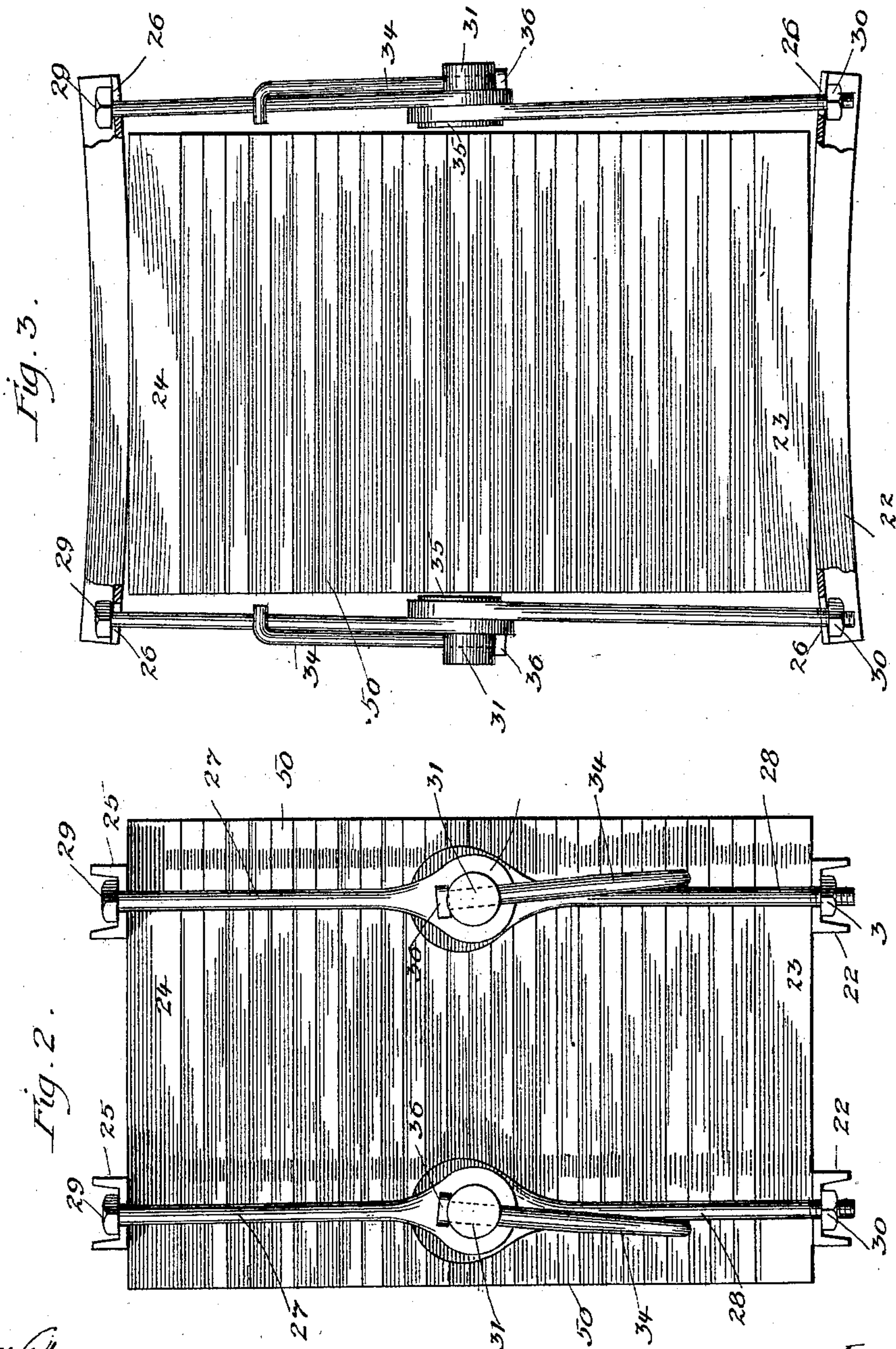
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(No Model.)

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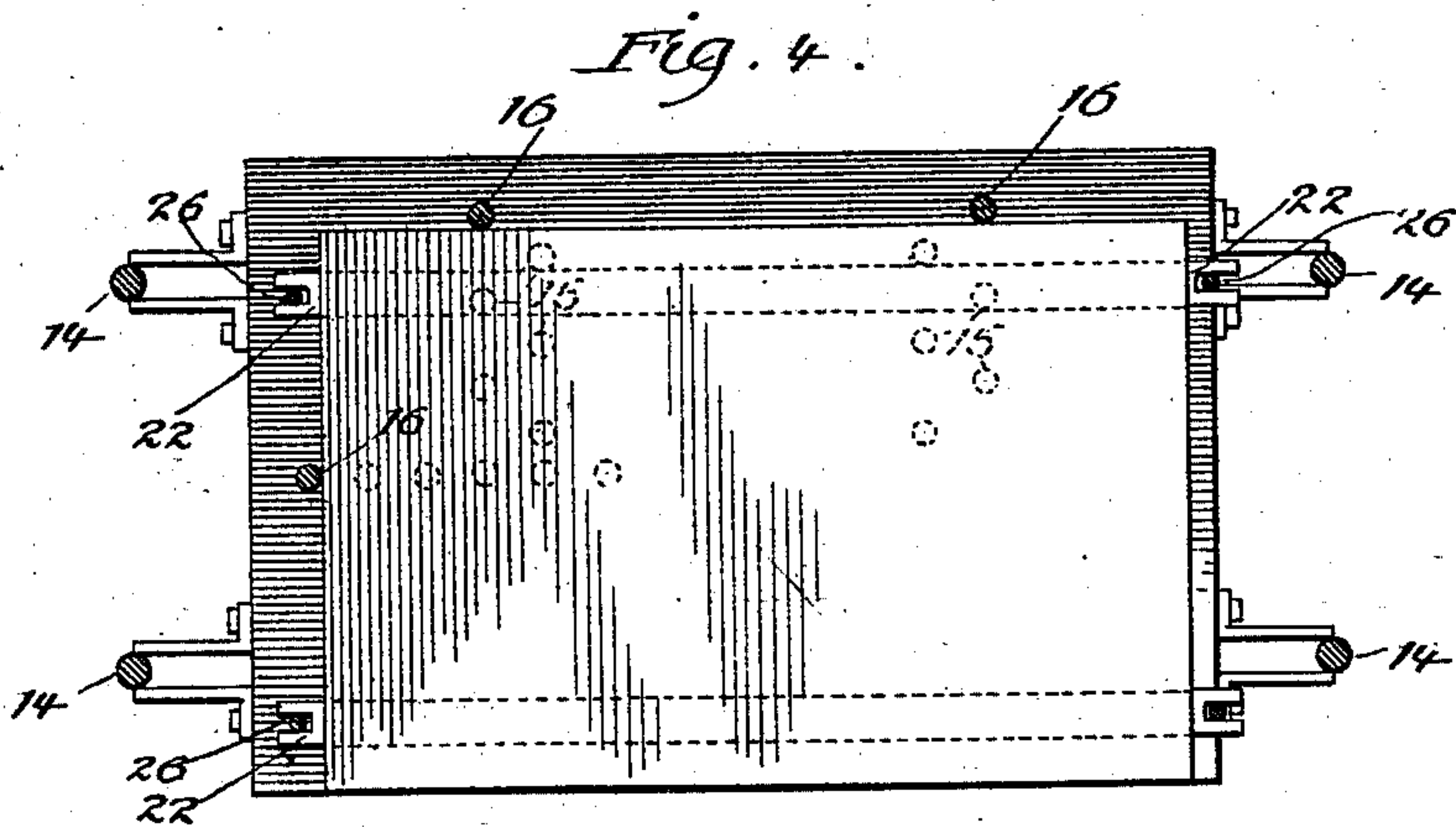
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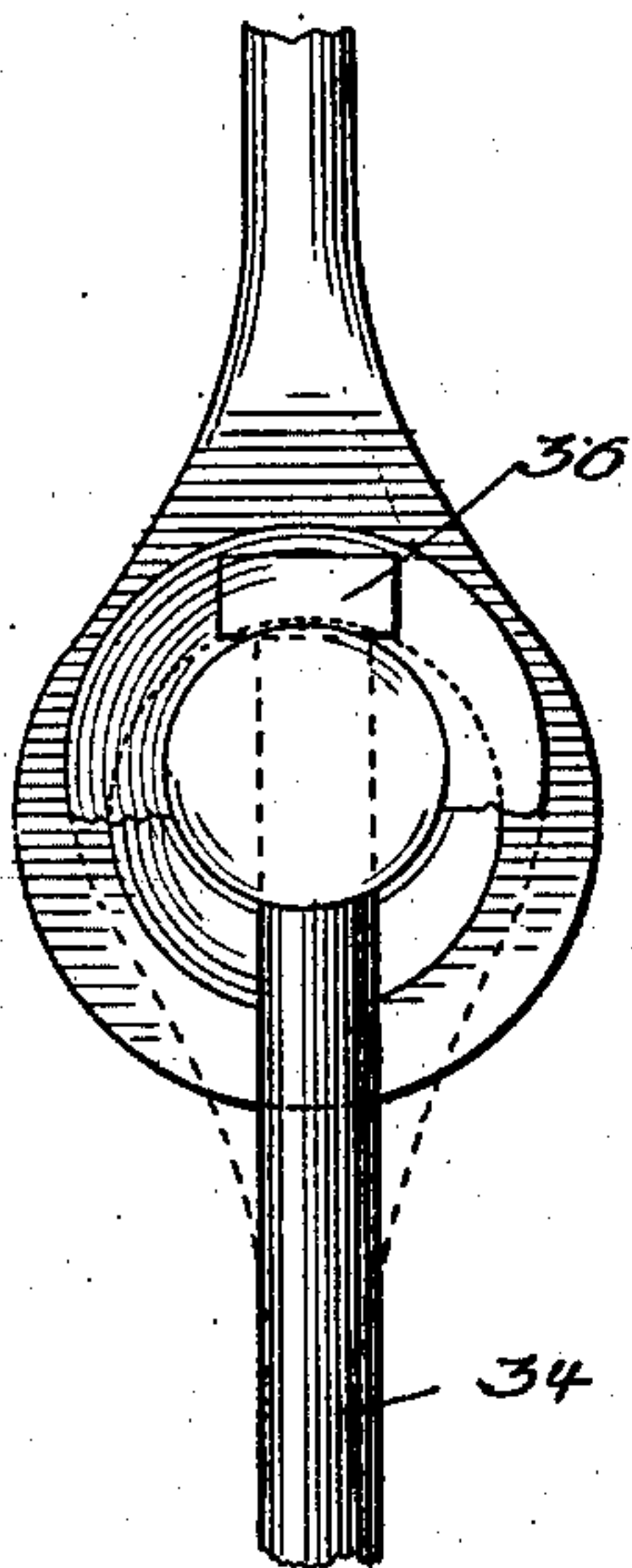
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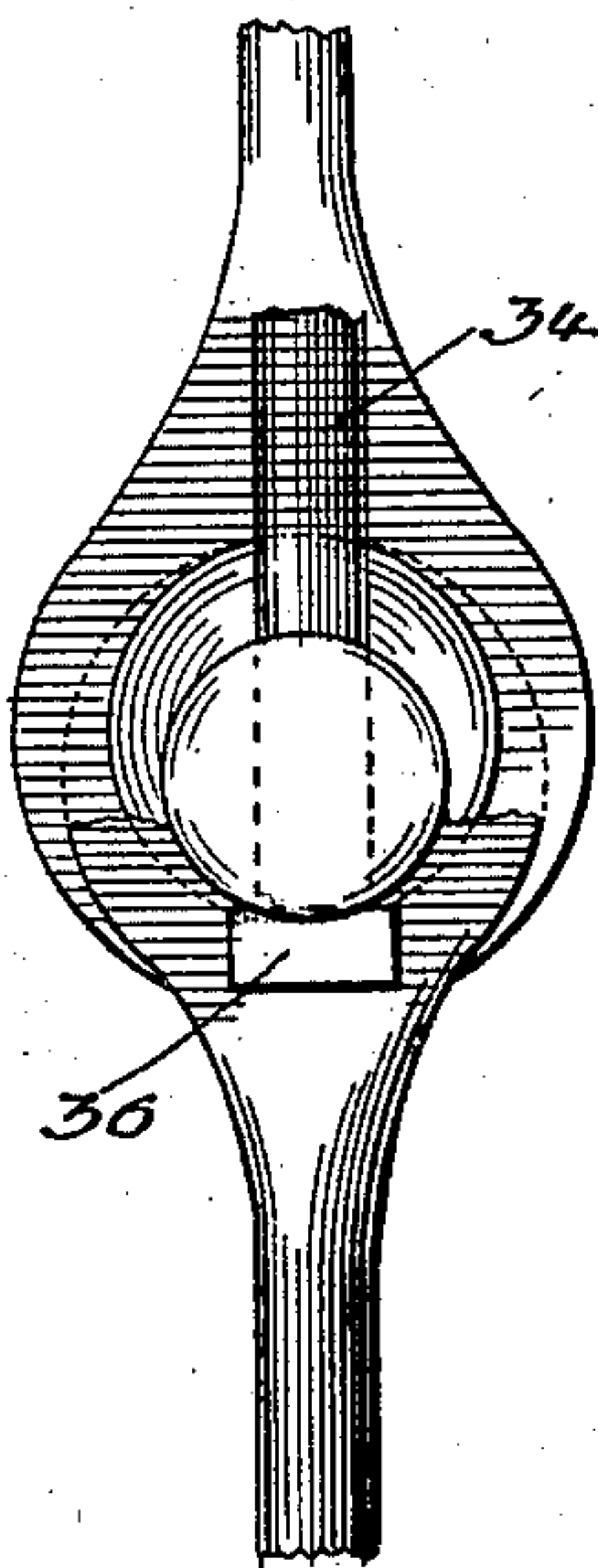
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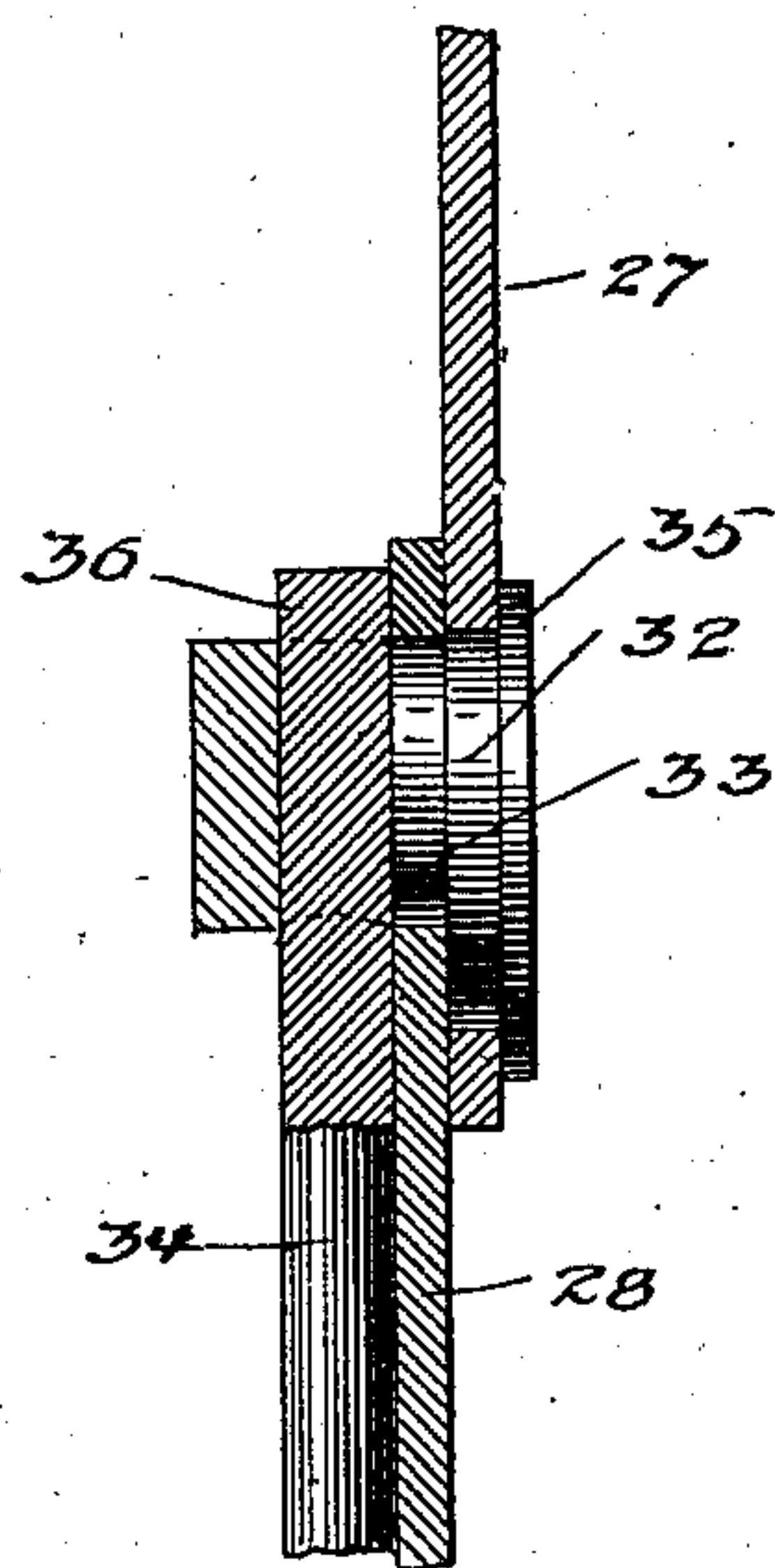
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

AARON S. NICHOLS, OF CHICAGO, ILLINOIS.

## GLUE-PRESS.

SPECIFICATION forming part of Letters Patent No. 673,409, dated May 7, 1901.

Application filed April 4, 1900. Serial No. 11,487. (No model.)

*To all whom it may concern:*

Be it known that I, AARON S. NICHOLS, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Glue Presses and Apparatus, of which the following is a specification.

This invention relates to the construction of gluing apparatus.

The main feature of the invention is found in the construction of the retainers, which is such as to permit their being tightened upon the compressed material while the latter is in the press, so as to retain the pressure by a single partial turn of an eccentric-pivot uniting the two parts or sections of the retainers. This operation is a very quick one, as will be readily understood, and is equally quick in releasing the material. The construction by which this result is obtained is fully set forth below and is also illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of the gluing-press with which the retainers are used. Fig. 2 is a front elevation of a portion of glued material as the same is clamped by the retainers, and Fig. 3 is a side elevation of the same, partly broken away, showing it before compression in the press. Fig. 4 is a horizontal section of the press and its contained material. Figs. 5 and 6 are enlarged detail views of the retainer-joint, showing the pivot in different positions. Fig. 7 is a sectional view of the joint.

In said drawings, 10 represents the base of the press, 11 the movable platen or bed thereof, and 12 the stationary or top platen. The press is an upwardly-acting one, and consequently the lower platen is made movable, and the hydraulic ram 13 for operating said lower platen is located between it and the base. The top platen is rigidly held to the base by suitable tie-rods 14 14, and the movable platen has projecting guides 14<sup>a</sup>, moving along the rods 14.

In the lower platen are a series of recesses 15 15, adapted to receive the lower ends of and support guide-rods 16 16, whose function it is to correctly position the stock in the press, the rods being used upon two sides, as shown. These rods extend up into correspondingly-located openings 17 17 in the top

platen and are free to move vertically in such openings, so that the movable platen may move up as near the top platen as needed. The rods may be changed in the openings and recesses as required by the stock in hand.

The ram is supplied with water by the pipe 18 and exhausts by the pipe 19, both said pipes connecting with a pipe 20, extending into the ram-cylinder, and the movement of the water is controlled by a three-way valve 21, which in one position allows the water to enter the ram until the desired pressure is attained. When this occurs, the operator moves the valve to its next position, thereby cutting off the entrance of fresh water, but confining that already in the ram, so that the pressure may be held for any necessary length of time. A movement of the valve to its third position opens the waterway and allows the escape of the water and the release of the pressure. While the pressure is being held the water is preferably allowed to circulate through pipes 18 and 19 and their connections (not shown) in an endless path to avoid the necessity for stopping the pump at such times.

In placing the glued material 50 in the press lower channel-irons 22 22 are placed upon the lower platen, and a caul or wood block 23 is placed across the irons. The stock is then piled on the caul until the desired amount has been positioned. Then another caul 24 is placed on top of the stock, and a second pair of channel-irons 25 25 is placed on caul 24. Water is now admitted to the ram and the stock compressed to the desired degree. While the pressure is on or previously, if desired, the retainers, now to be described, are positioned in the notches 26 in the ends of the channel-irons. These retainers are four or more in number, unless the stock is so small as to admit of the use of two, and they each consist of two metal sections or rods and 28, each rod having at its outer end an enlargement or head engaging the channel-bar in which it is inserted, such as the stationary head 29, shown in the case of the rods 27, or the adjustable nuts 30, shown in the case of rods 28. At their meeting ends the rods are flattened and enlarged and provided with openings adapted to receive a combined eccentric and pivot 31, this device having a



pivotal portion 32, fitting the opening in one of the rods, preferably rod 27, and an eccentric portion 33, fitting the opening in the other rod, preferably rod 28. This pivotal device 5 31 is partially rotated by a lever 34, passed through its projecting end at one side of the rods, as seen at Figs. 5 to 7, and it is confined in the rods by said lever at one side and by a collar 35 at the other side. The free end of 10 lever 34 may be bent, as shown, so that it will encounter the rods, and thus limit the rotary movement, and at its other end it is provided with a head 36 to prevent it from slipping out of the pivot.

15 It will be seen from the construction described that when the eccentric-pivot 31 is turned in one direction the eccentric will draw the rod in which it is located in a direction to cause a shortening of the retainer, 20 and when turned in the other direction it will lengthen the retainer and release the clamping action. The retainer is shown as tightened at Fig. 2 and as lengthened in Fig. 3. The operations of tightening and loosening the retainers with a device of this character are each instantaneous, as only a single 25 motion of the lever is necessary in either case. The retainers should of course be adjusted

whenever necessary to cause the proper amount of clamping action by them by adjusting the nuts 30. 30

The channel-bars are preferably sprung from end to end, as seen at Fig. 3, so that their surfaces toward the stock will be slightly rounded or convex. As a result of this when 35 the press begins to act the greatest pressure will be exerted along the vertical plane or zone at the center of the stock, so that the glue at the central portions will be forced outward toward the ends. The pressure may 40 be severe enough to straighten out the bars either partially or wholly; but they will resume their sprung or bowed condition as soon as the pressure is relieved.

I claim— 45

The combination with a glue-press of means for holding the pressure on the stock after removal from the press, such means embracing normally sprung clamping-bars adapted to be straightened by the press, substantially as 50 specified.

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