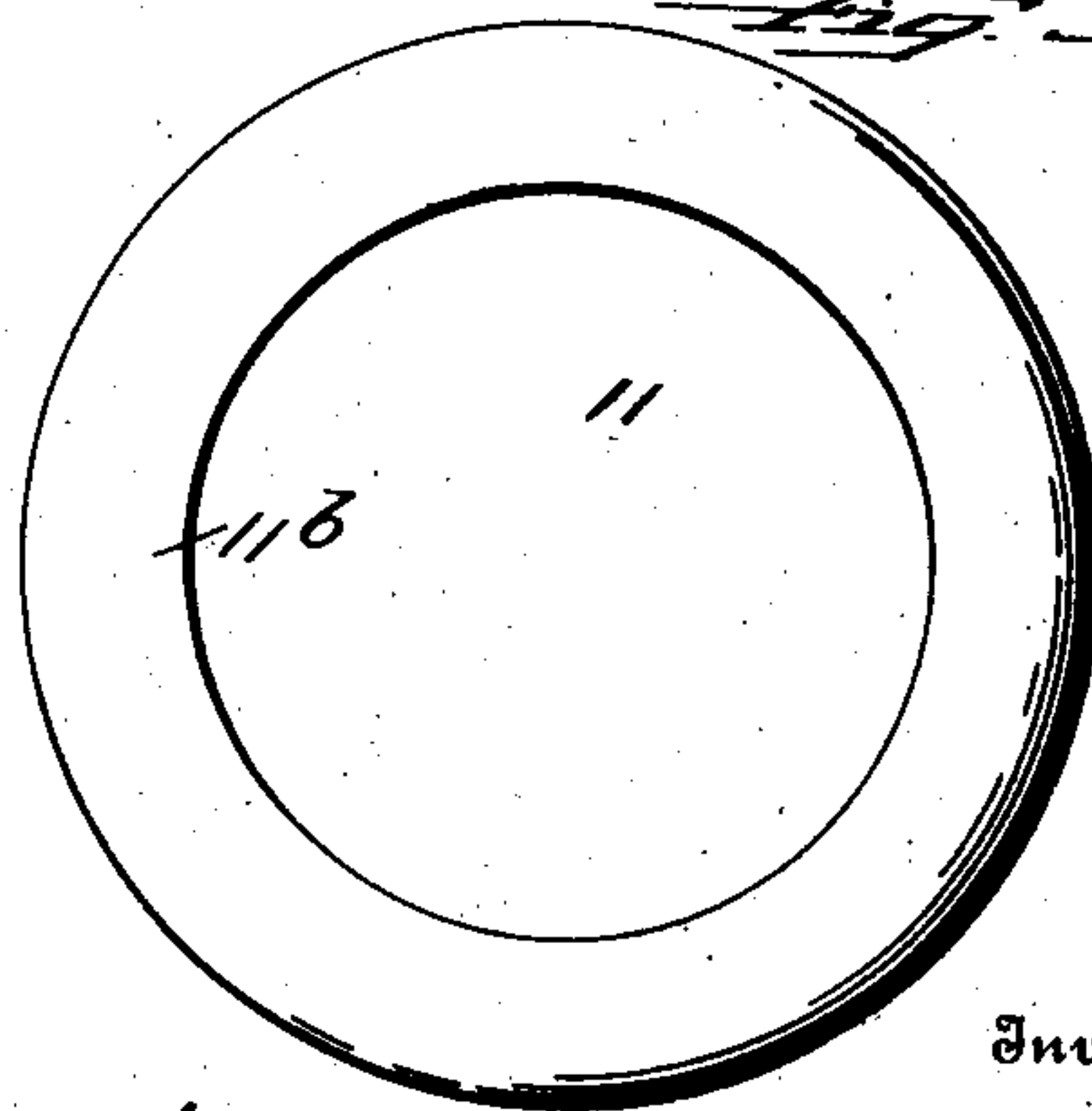
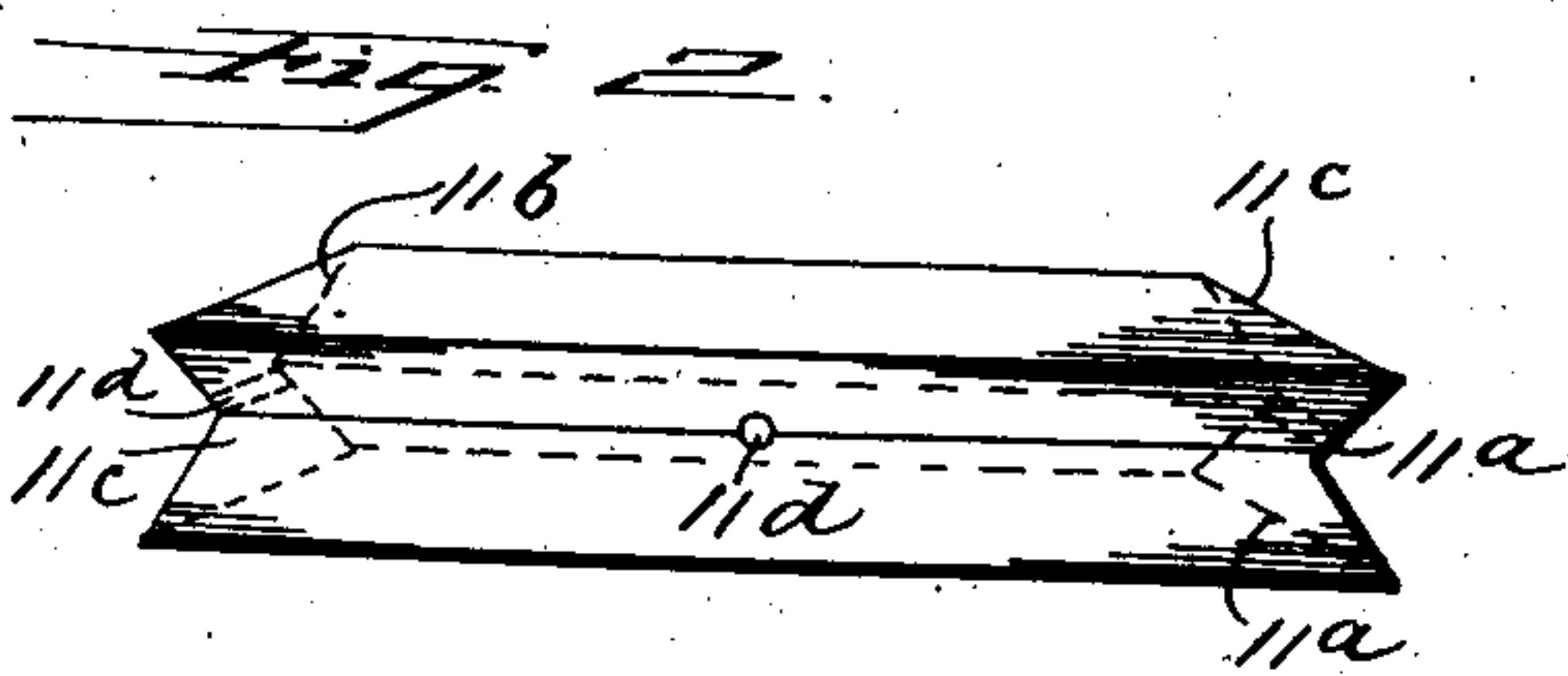
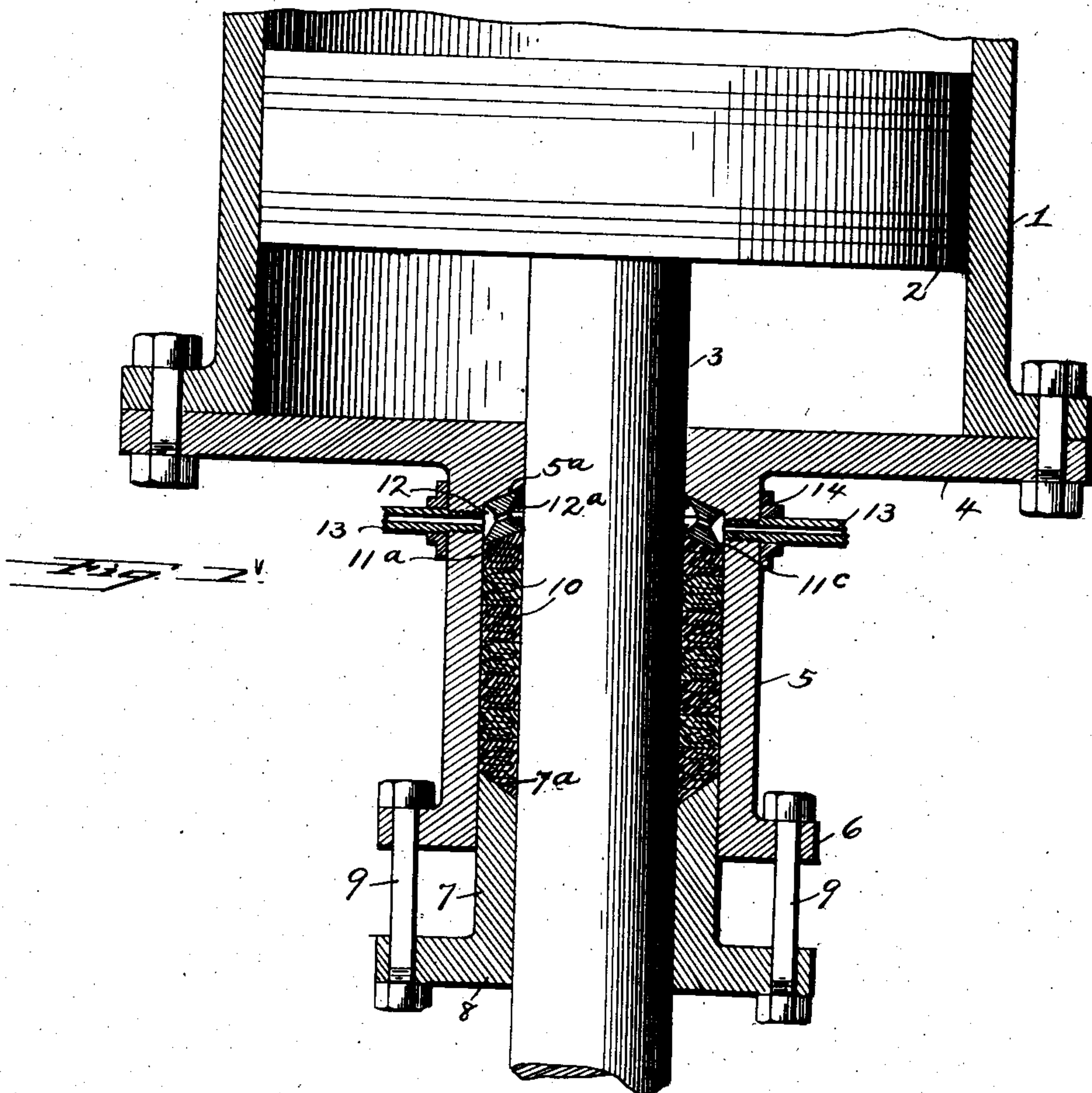


No. 834,984.

**PATENTED NOV. 6, 1906.**

J. M. JUHLER.  
STUFFING BOX.

APPLICATION FILED APR. 10, 1906.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JESSE M. JUHLER, OF SPRECKELS, CALIFORNIA.

## STUFFING-BOX.

No. 834,984.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed April 10, 1906. Serial No. 311,009.

*To all whom it may concern:*

Be it known that I, JESSE M. JUHLER, a citizen of the United States, residing at Spreckels, in the county of Monterey and State of California, have invented certain new and useful Improvements in Stuffing-Boxes, of which the following is a specification.

This invention relates to new and useful improvements in stuffing-boxes for pistons, valve-rods, and the like, and it particularly contemplates the provision of novel means for supplying liquid lubricant to the piston.

In the art as commonly practiced lubricating material of a semisolid consistency has been employed which contains more or less grit. In the course of continued use the small particles of grit adhere to the piston in its reciprocating movement, and friction is generated between these particles and the glands or packing-rings of the stuffing-box. The friction thus generated wears away the surface of the piston and the packing-rings and impairs the efficiency of the engine, pump, or other device in connection with which the piston is employed.

It is the primary consideration of the present invention to reduce to a minimum degree the friction in the stuffing-box due to gritty lubricants, and thus eliminate the disadvantages above noted, and to this end the invention resides in the provision of a lubricating means with which liquid lubricant, which is almost wholly free from grit, may be employed.

The detail construction will appear in the course of the following description, in which reference is had to the accompanying drawings, forming a part of this specification, like numerals designating like parts throughout the several views, wherein—

Figure 1 is a longitudinal section showing a stuffing-box embodying the present invention. Fig. 2 is a side elevation of a lubricating-ring constructed in accordance with my invention, and Fig. 3 is a top plan view thereof.

I have shown my invention as employed in connection with an engine-piston, and in the accompanying drawings the numeral 1 designates an engine-cylinder, within which the piston 2, carried upon the piston-rod 3, has movement. The end plate 4 of the engine-cylinder, through which the rod 3 passes, is provided with a depending collar 5, concentric with said rod and formed at its base with an outstanding annular flange 6. A

packing-gland 7, formed at its base with an annular outstanding flange 8, occupies the space between the rod 3 and the collar 5, and said gland is adjustably seated in said space by virtue of its connection with the collar 5 by bolts 9, extending through the flanges 6 and 8.

The gland 7 is formed with an inclined upper edge 7<sup>a</sup>, which serves to center the packing-rings against the piston. These packing-rings are designated by the numeral 10 and occupy in superimposed relation the concentric space between the collar 5 and rod 3 above the gland 7. The means for supplying liquid lubricant to the piston comprises metallic ring 11, surrounding the piston and interposed between the end wall of the collar 5 and the uppermost of the rings 10. The end wall of the collar 5 is concaved, as at 5<sup>a</sup>, and the ring 11 is formed with a convex upper surface 11<sup>b</sup>, designed to rest in the concave seat 5<sup>a</sup> therefor, and with a concave lower surface 11<sup>a</sup>, against which the uppermost of the rings 10 bears, the surfaces 11<sup>a</sup> of the ring 11 and 7<sup>a</sup> of the gland 7 cooperating to center the rings 10 against the piston.

The ring 11 is formed with grooved sides 11<sup>c</sup> and is accordingly substantially X-shaped in cross-section, so that concentric spaces 12 and 12<sup>a</sup> are left, respectively, between said ring and the collar 5 and between said ring and the rod 3.

The spaces 12 and 12<sup>a</sup> serve as reservoirs for the reception of liquid lubricant, and communication is had therebetween by providing the ring 11 with a series of openings 11<sup>d</sup>, extending transversely through the narrowest portion of said ring and arranged apart at regular intervals of distance.

The collar 5 is formed with a series of openings adjacent the openings 11<sup>c</sup>, into which are threaded lubricant-conductors 13, provided with lock-nuts 14, and through which the lubricant flows under pressure from the source of supply.

In practical use the liquid lubricant, such as water or oil, is introduced through the conductors 13 into the space 12, from whence it flows as required through the openings 11<sup>d</sup> into the space 12<sup>a</sup>, where it is consumed in actual use. The supply of lubricant is constant, and as long as maintained under the requisite pressure the feed thereof is automatic. It will thus be seen that I have provided a device which possesses the functions of the expensive and complicated oil-cups

commonly employed with shafting, and yet one which is exceedingly simple and inexpensive to manufacture.

Having fully described my invention, I  
5 claim—

The combination with a longitudinally-movable rod, of a stuffing-box, surrounding the same and comprising a cylindrical casing formed with an open end, said rod passing  
10 centrally through said casing, packing-rings therein surrounding said rod, a lubricating-

ring therein adjacent to the closed end of said casing, said ring being formed with a concave underneath surface and a gland adjustably secured to said casing and formed with  
15 a concave upper surface.

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

JESSE M. JUHLER.

Witnesses:

JOHN HANSEN,  
J. P. TUENDING.