

(No Model.)

D. LAWRENCE.

TAP FOR BARRELS, CASKS, &c.

No. 301,730.

Patented July 8, 1884.

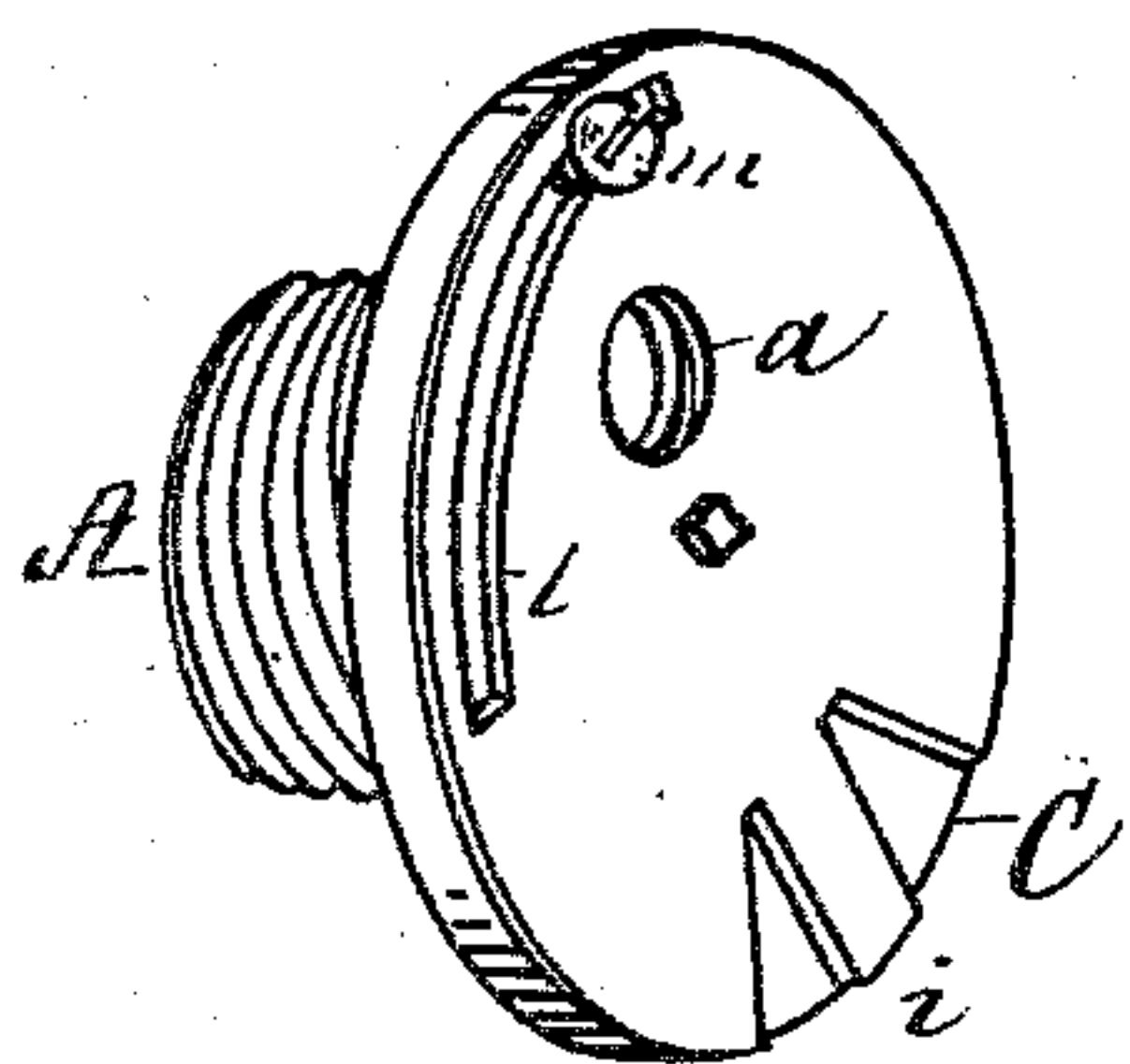


Fig. 1.

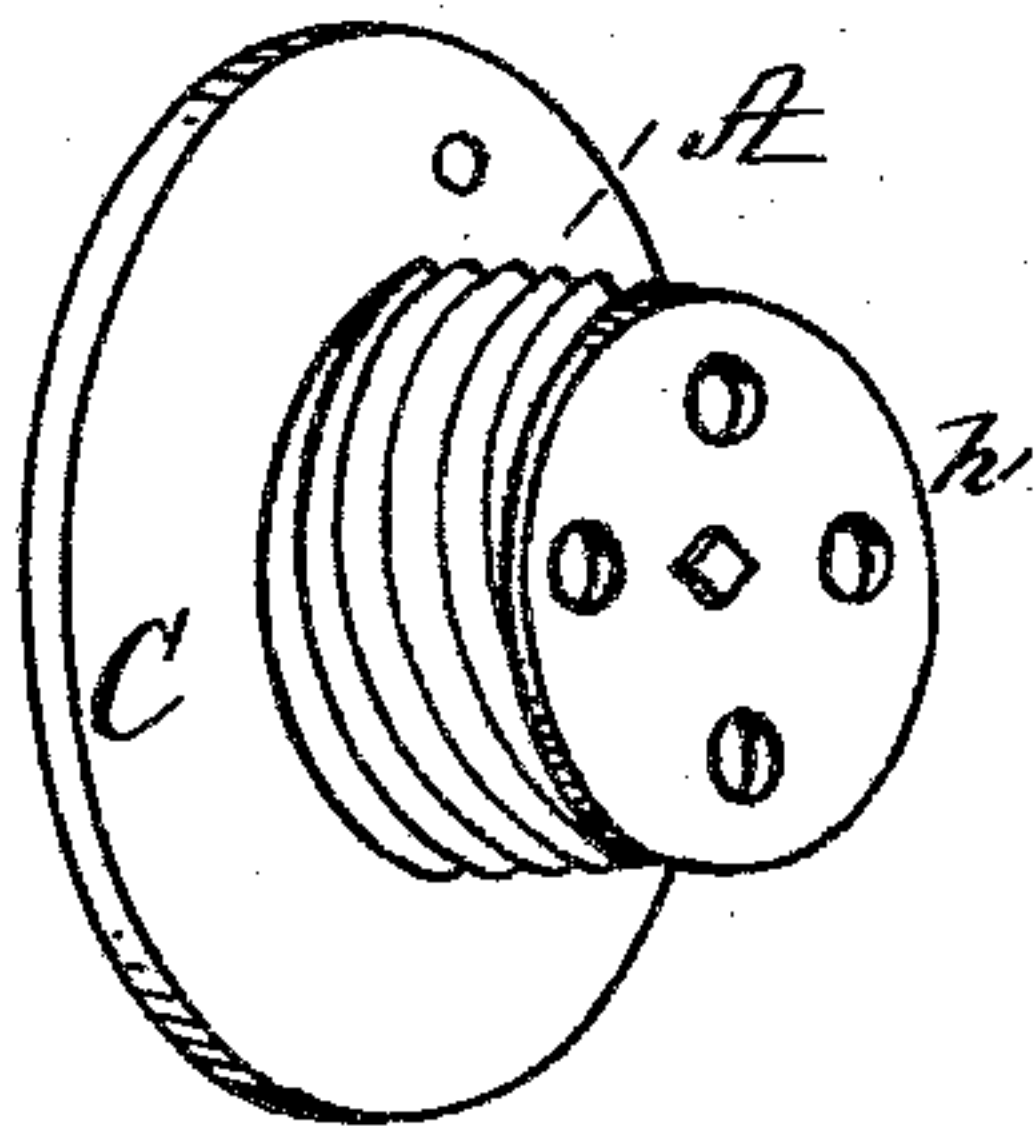


Fig. 2.

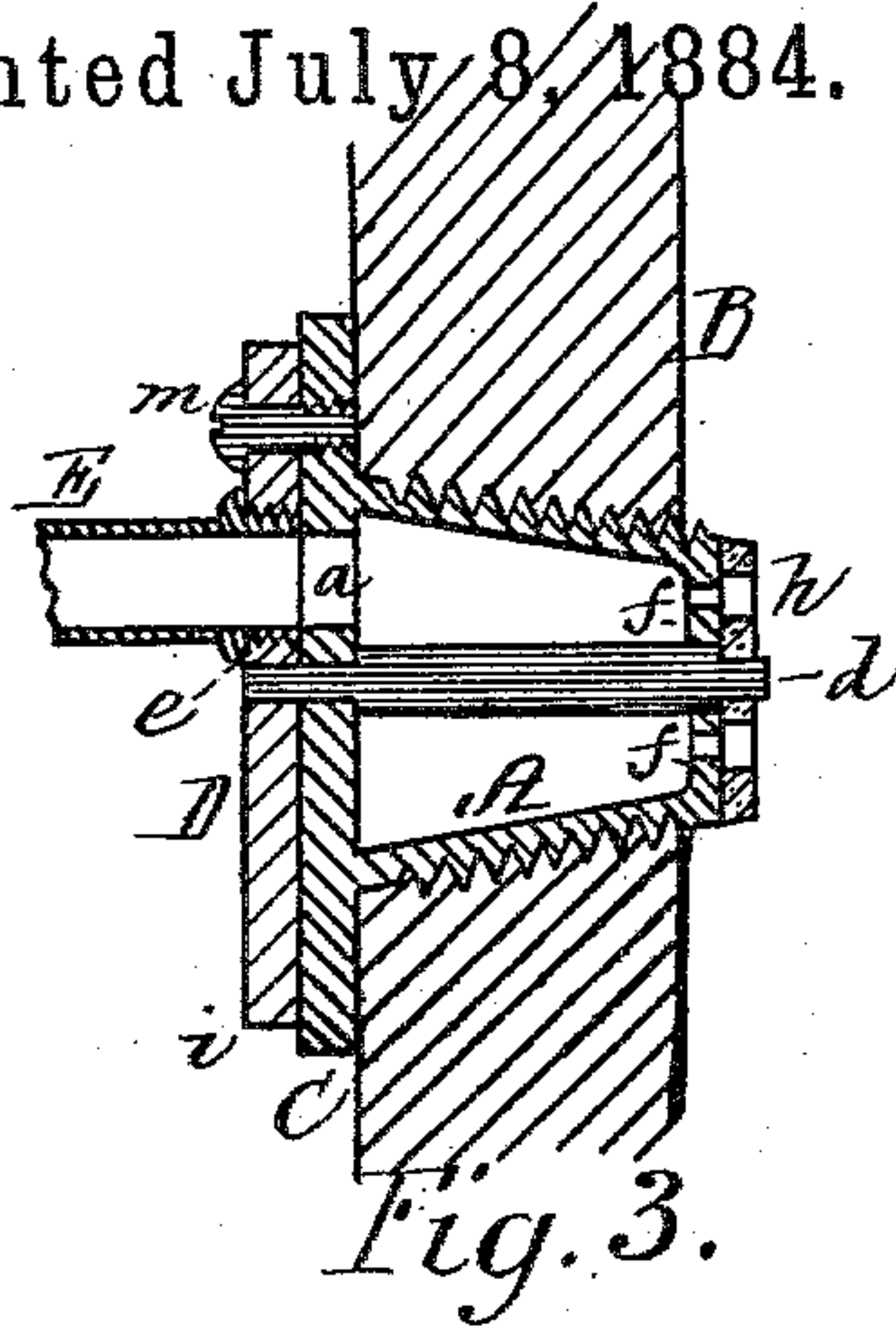


Fig. 3.

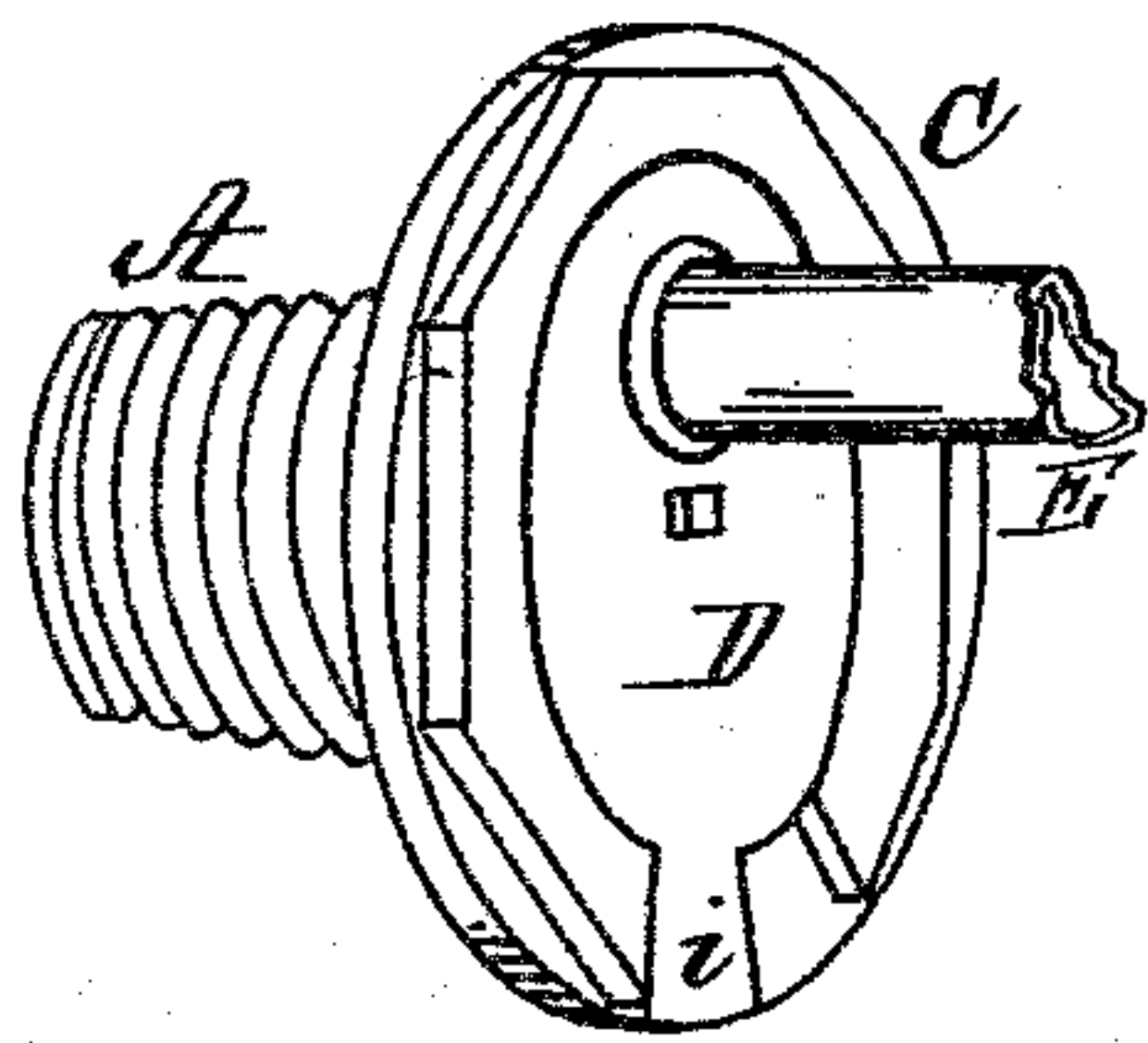


Fig. 4.

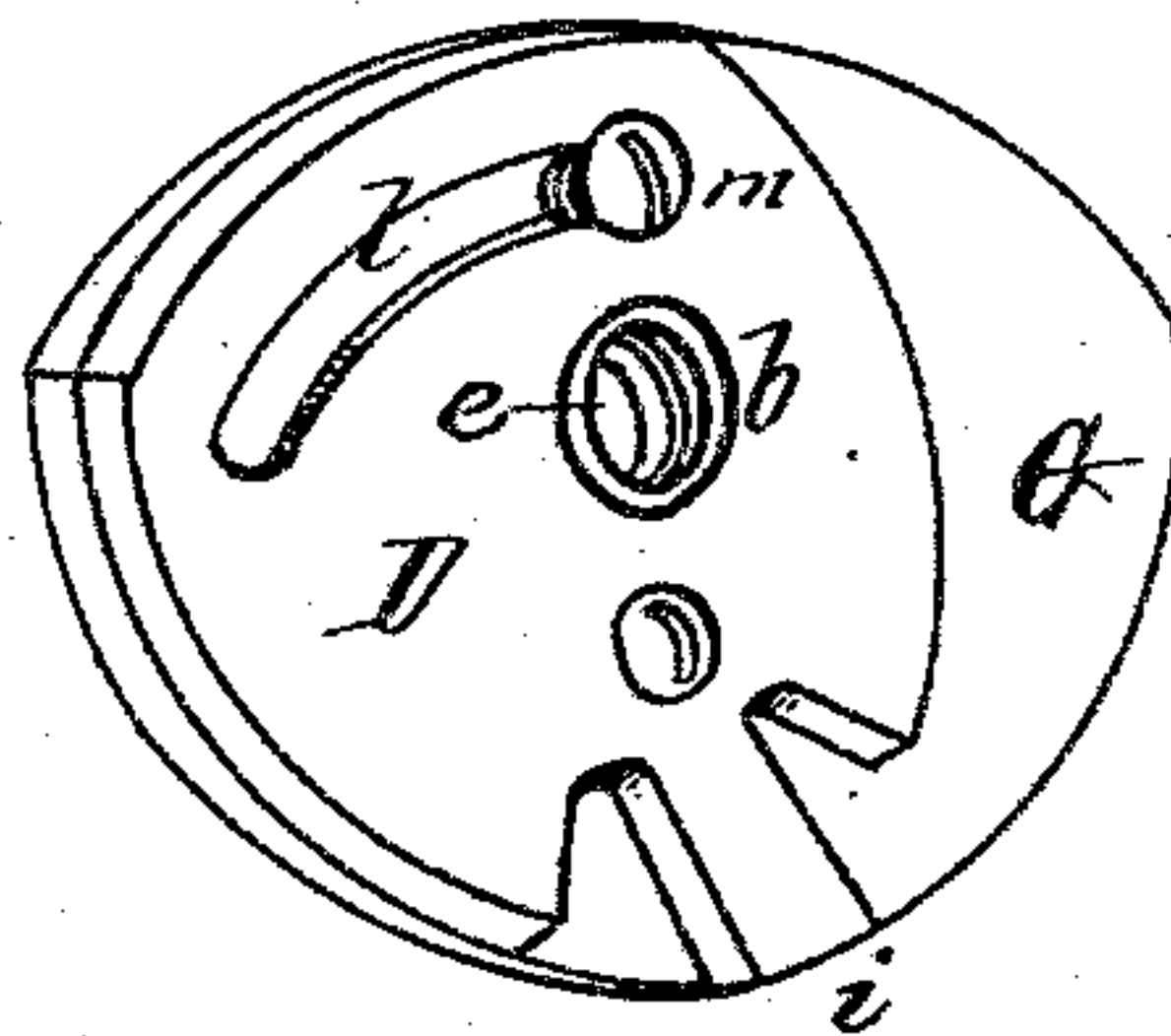


Fig. 5.

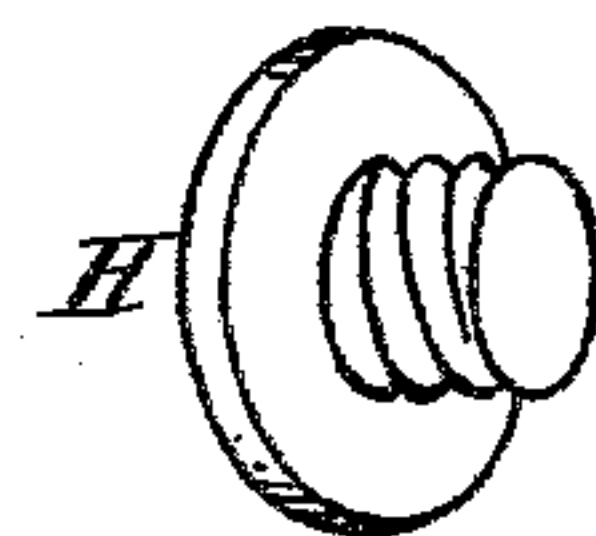


Fig. 8.

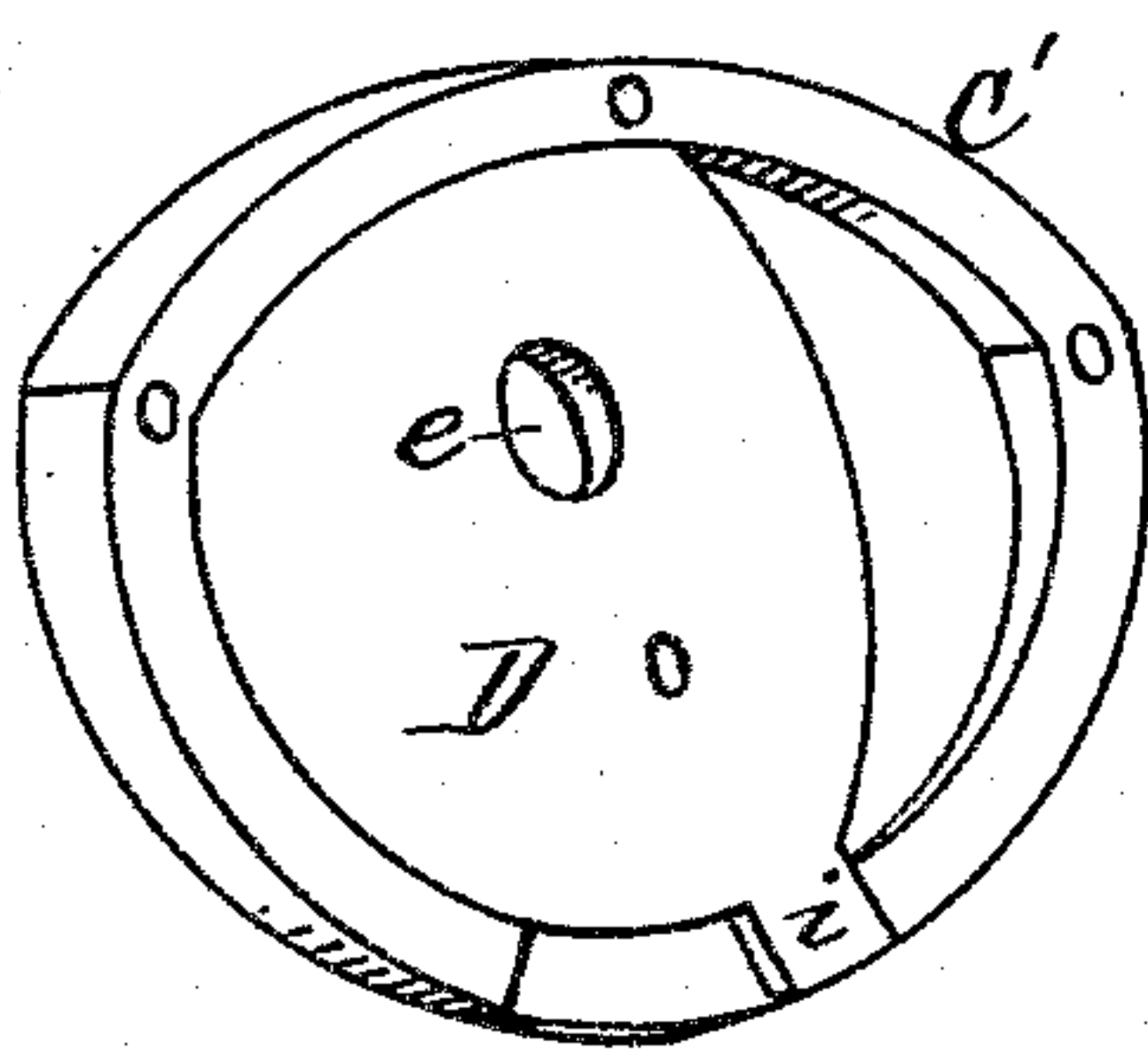


Fig. 6.

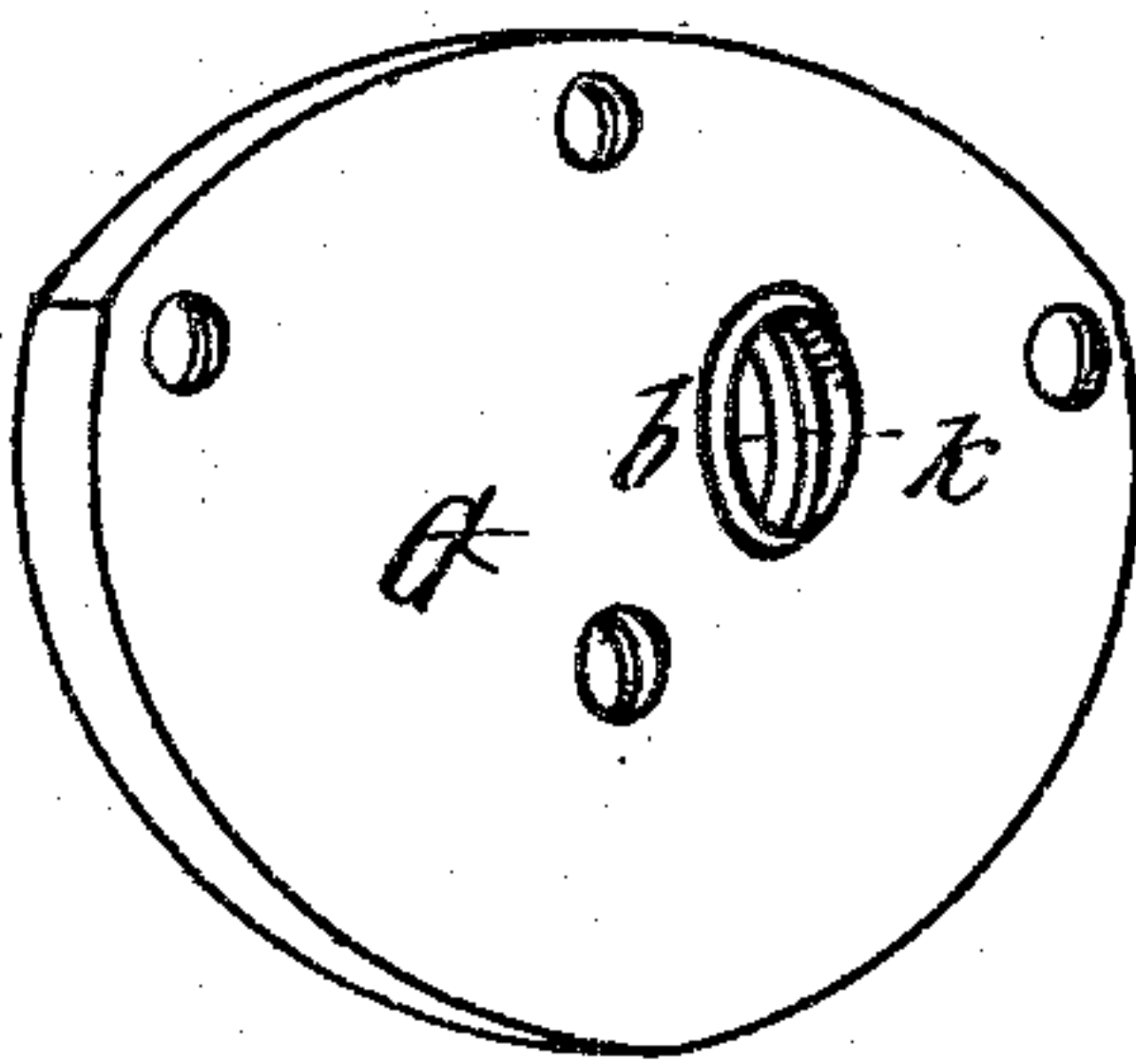


Fig. 7.

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# UNITED STATES PATENT OFFICE.

DAVID LAWRENCE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF  
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## TAP FOR BARRELS, CASKS, &c.

SPECIFICATION forming part of Letters Patent No. 301,730, dated July 8, 1884.

Application filed February 23, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID LAWRENCE, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Taps for Barrels, Casks, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

10 Figures 1 and 2 are perspective views of a barrel plug or tap constructed in accordance with my invention. Fig. 3 is a longitudinal section through the center of the same applied to the barrel. Fig. 4 is a tap having its front plate  
15 of polygonal form for convenience of applying a wrench thereto to turn it into its seat. Fig. 5 shows the front plate of different form. Fig. 6 shows the valve set in flush with the front plate and a cover or guard therefor; Fig. 7, a central  
20 vertical section, to be referred to; Fig. 8, a screw-plug for closing the opening in the valve or the opening in the guard.

In the transportation of beer and other gaseous liquids contained in barrels, casks, &c.,  
25 owing to the liability of being struck and injured or displaced, the draft cock or faucet is not inserted therein until the receptacle arrives at its destination, when, preparatory to use, the faucet is driven into the outlet by forcing in a  
30 wooden plug, (usually employed for closing the same,) which operation involves much labor, requires skill, and is nevertheless attended with more or less waste of the liquid, and after being frequently repeated destroys the original  
35 circular or other form of the outlet, rendering it necessary to remove a portion or the whole of the barrel-head and replace it by a new one. Furthermore, where a pump is employed for elevating the liquid, it often happens that the  
40 tube or pipe connecting it with the outlet-passage bursts, and no proper means being at hand for shutting off the liquid much loss is occasioned.

My present invention has for its object to remove these difficulties; and it consists in a tap  
45 or hollow plug located within the head of the receptacle, preferably while empty, and remaining permanently therein, said tap being provided with a rotating valve adapted to receive a faucet or pump or siphon-tube when

the liquid is required for use, and also capable of readily and securely closing the passage leading through the tap into the liquid when not in use or for transportation.

My invention also consists in a covering plate 55 or shield for protecting said valve, and also in a perforated plate or strainer located within the receptacle and in contact with the inner end of the tap when the latter is also perforated, and is to be used for drawing liquids of  
60 light consistency, said perforated inner plate being rotated back and forth on its seat, in order to clear it from any sediment which may have collected thereon.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents a hollow plug or tap of slightly-tapering form, being  
70 smaller in diameter at its inner end, the exterior of the plug being provided with a screw-thread for ease of location within the draft-outlet in the head of the barrel B. The outer end of the plug is provided with a plate, C, of considerable diameter, extending across it, the  
75 contour of the outside of the plate being either polygonal, as seen in Fig. 4, or circular, with openings therein, for convenience of applying a suitable wrench thereto. The plate C is provided with a circular opening, *a*, leading into  
80 the hollow plug, and surrounding this opening is a raised lip, *b*, Fig. 7, over which is fitted a flexible washer or packing, *c*. Passing through the center of the plug and its outer plate, C, is  
85 an axial pin, *d*, Fig. 3, to the outer end of which is secured a valve, D, having an opening, *e*, the valve resting on the packing *c*, and, when rotated on the axis *d*, bringing said opening *e* in  
90 line with the opening *a* in the plate C, and with the interior of the hollow plug. The valve-opening *e* is screw-threaded, Fig. 3, to receive the threaded end of a draft-cock, E, or pipe-connection, which may be instantly removed and applied, as desired. The inner end  
95 of the plug is either left open to form a free passage of considerable size when a liquid of great specific gravity—such as molasses—is to be drawn; or said inner end may consist of a perforated wall, *f*, when the barrel is intended to  
100



hold a liquid of light consistency, liable to contain sediment; and in order to remove the same and insure at all times the unobstructed flow of the liquid, I employ a perforated plate or strainer, *h*, secured to the inner end of the axial pin *d*, on which the valve *D* is pivoted, the strainer being in contact with the perforated wall *f*, and the perforations in the strainer *h* being larger than those in the wall *f*, the rotation of the strainer serving to cut up, loosen, and remove the sediment which may have been deposited on the said wall. When the opening *a* in the plate *C* and the opening *e* in the valve *D* are in line with each other and the passage in the plug, the perforations in its wall and those in the strainer *h* are also in line. The valve *D* is rotated by applying the hand to the projection *i*.

*G* is a guard or shield for covering the valve *D*, Fig. 6, and protecting it from injury, said guard being provided with a screw-threaded opening, *k*, for the reception of the screw-threaded end of the faucet or tube-connection, in which case the screw-thread in the valve-opening *e* will be dispensed with.

*H* is a screw cap or plug for closing the opening *d* in the valve *D* when no guard *G* is used, and for closing the opening *k* in the guard only when the latter is employed.

The form of the outer plate, *C*, (see Fig. 5,) is oblong, (instead of circular, as shown in Fig. 2,) to admit of pivoting the valve *D* outside of its center, and to allow of the maximum size of the opening *a* therein, the valve *D* being provided, if desired, with a slot, *l*, for the passage of a screw, *m*, which, when turned in, clamps the valve and prevents its movement when the openings *a* and *e* are out of line and the barrel closed for transportation. The valve, either when interposed between the outer plate, *C*, and its guard or shield *G*, or when not provided with such guard, may rest on the outer surface of the plate or be set in flush therewith, as may be deemed advisable.

It will be observed that in Fig. 7 the face-plate *C* of the screw-plug *A* is turned out, so as to form a raised rim, and lying flush within the recess formed thereby is located, first, a packing and next a valve, *D*, resting thereon, the outer surface of the valve lying flush with the outer surface of the rim of the plate *C*, while in Fig. 3 no such recess in the plate exists, the entire valve projecting outside the outer surface of the plate.

I claim—

1. The hollow plug or tap *A*, with its outer plate, *C*, formed integral therewith, and with an outlet-opening, *a*, in combination with the valve *D*, pivoted to the plate *C*, and having an opening, *e*, adapted to be brought in and out of line with the outlet *a* by the rotation of said valve, constructed to operate substantially as described.

2. The hollow tap *A*, having at its outer end a plate *C*, provided with an outlet, *a*, and with a perforated wall, *f*, at its inner end, in combination with a valve, *D*, pivoted to the outside of the plate *C*, and having an opening, *e*, as and for the purpose set forth.

3. In combination, the hollow plug *A*, with its outer plate, *C*, having an outlet, *a*, and an inner perforated wall, *f*, a strainer, *h*, a valve, *D*, and an axial pin, *d*, connecting the strainer with the valve, the strainer being rotated by the rotation of the valve, as and for the purpose specified.

4. The hollow plug *A*, having a plate, *C*, provided with an outlet, *a*, and a perforated wall, *f*, and a valve, *D*, pivoted to the outside of said plate, and provided with an opening, *e*, and with a slot, *l*, for the passage of a clamping-screw, *m*, as set forth.

Witness my hand this 11th day of February, 1884.

DAVID LAWRENCE.

In presence of—

N. W. STEARNS,

JAS. W. CHAPMAN.