

(No Model.)

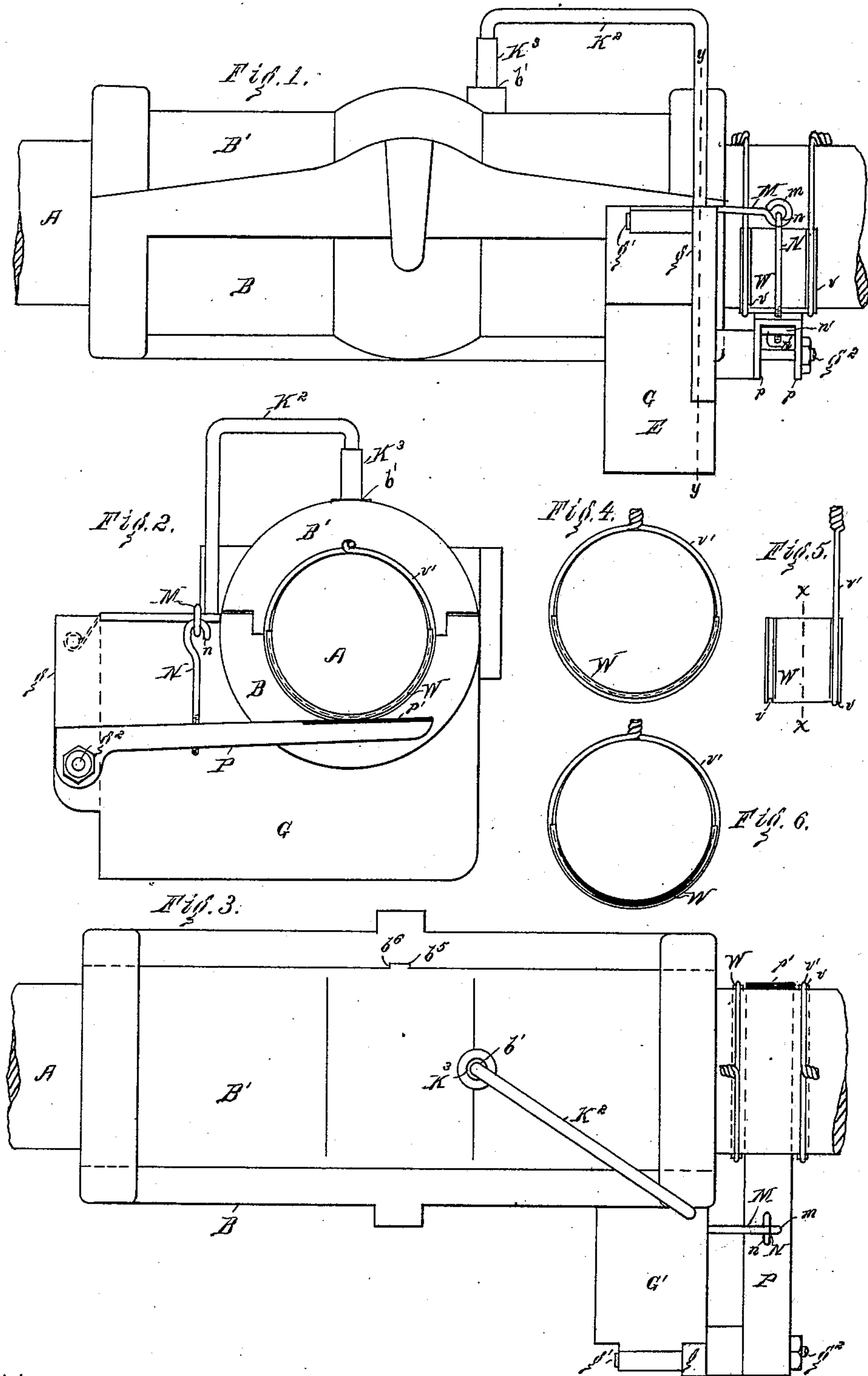
2 Sheets—Sheet 1.

H. P. HUMPHREY.

MECHANICAL OILER AND JOURNAL BOX FOR SHAFTING.

No. 333,950.

Patented Jan. 5, 1886.



WITNESSES—

*Hirshley H. H. H.*  
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INVENTOR—

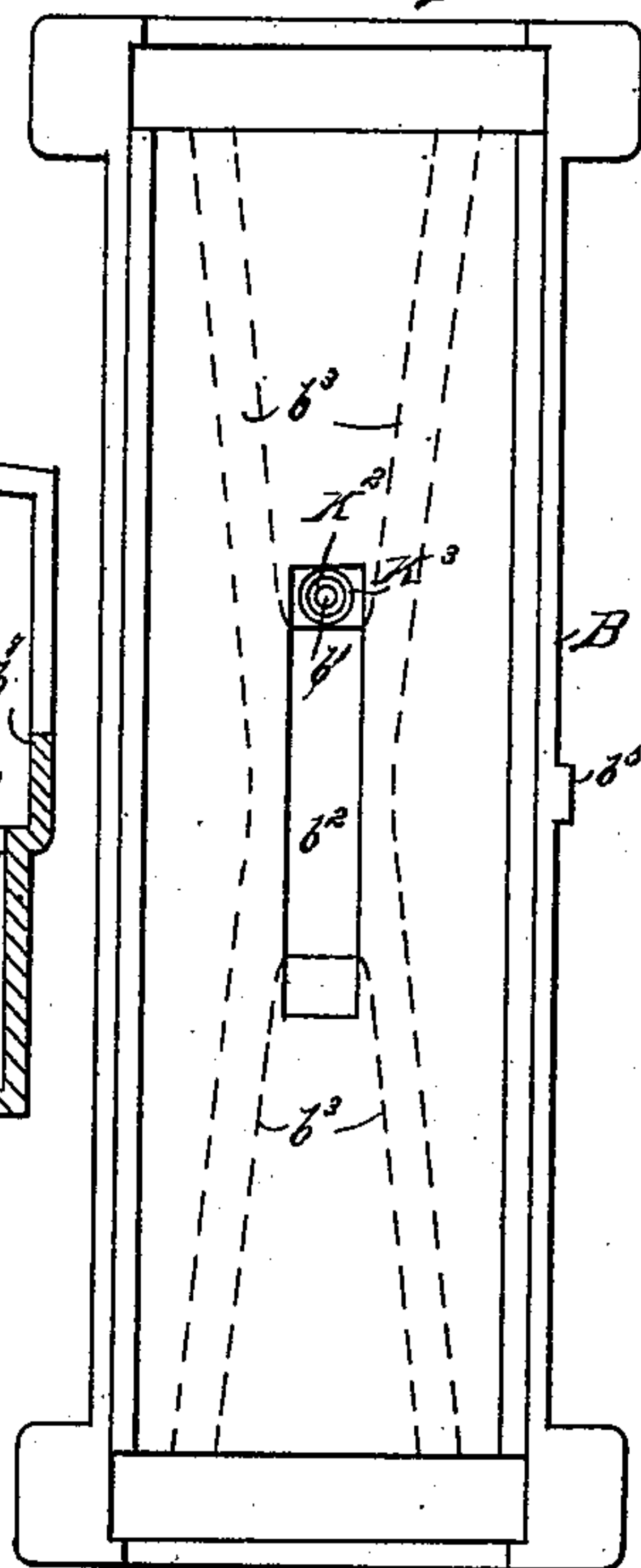
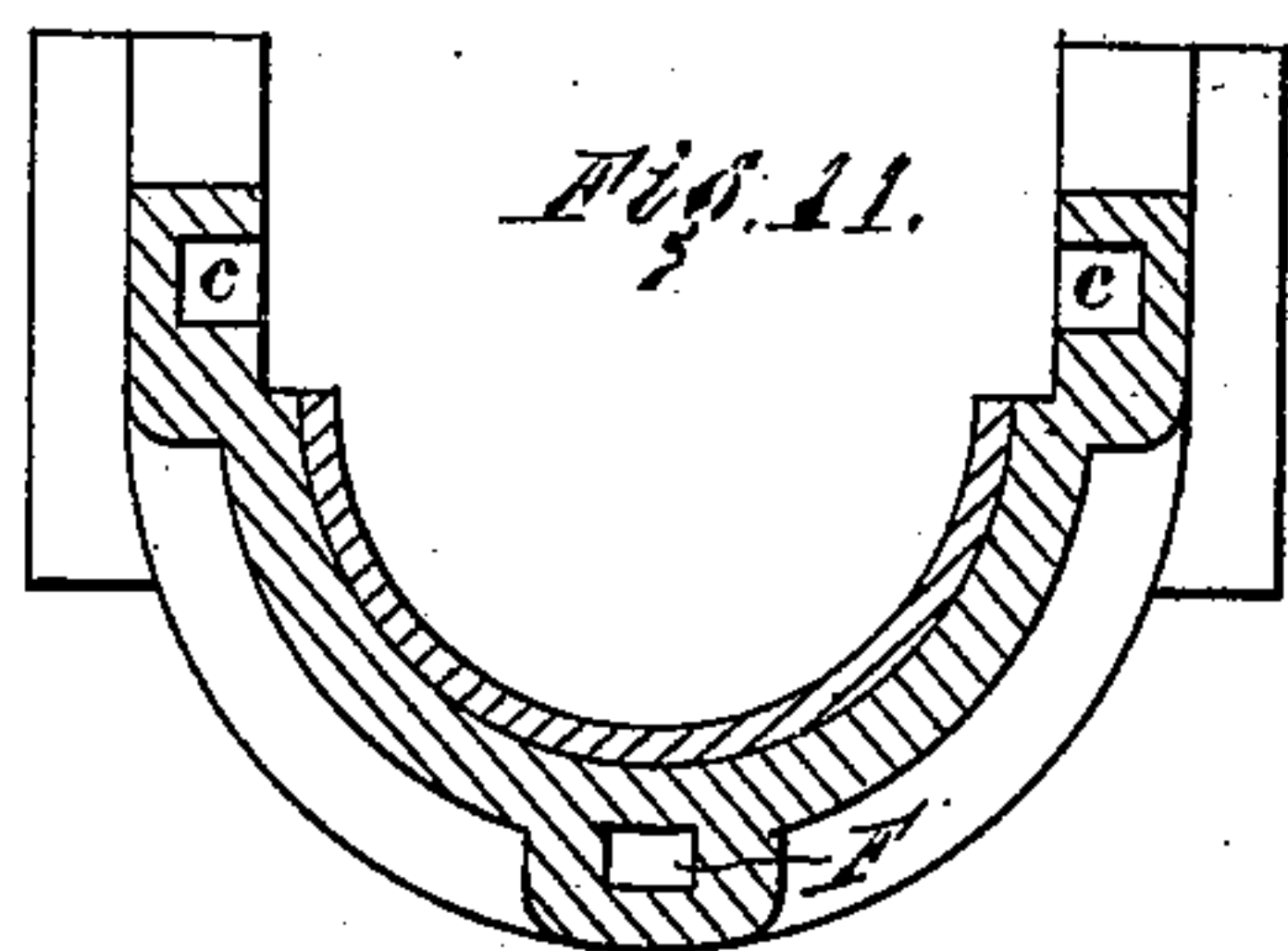
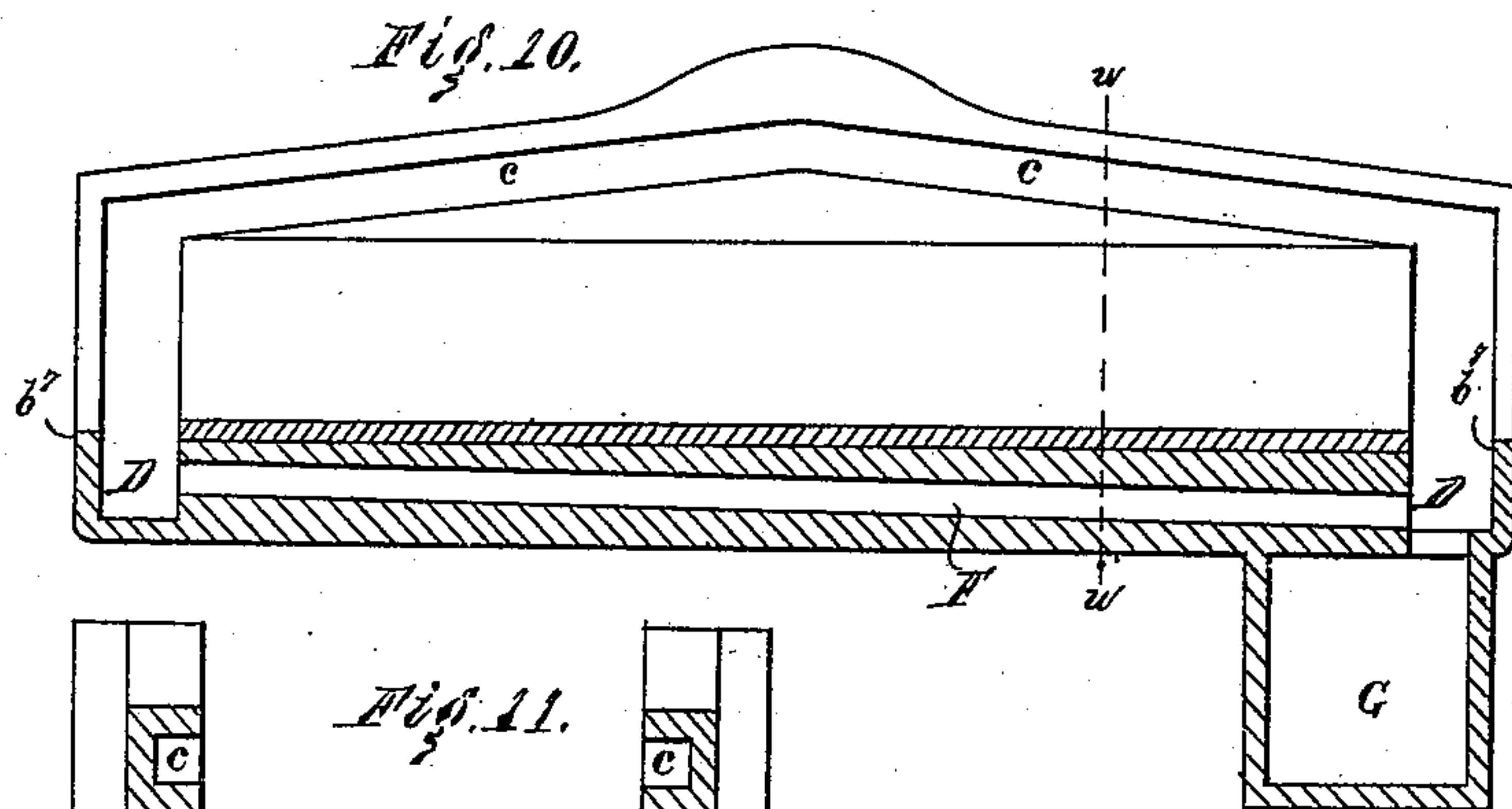
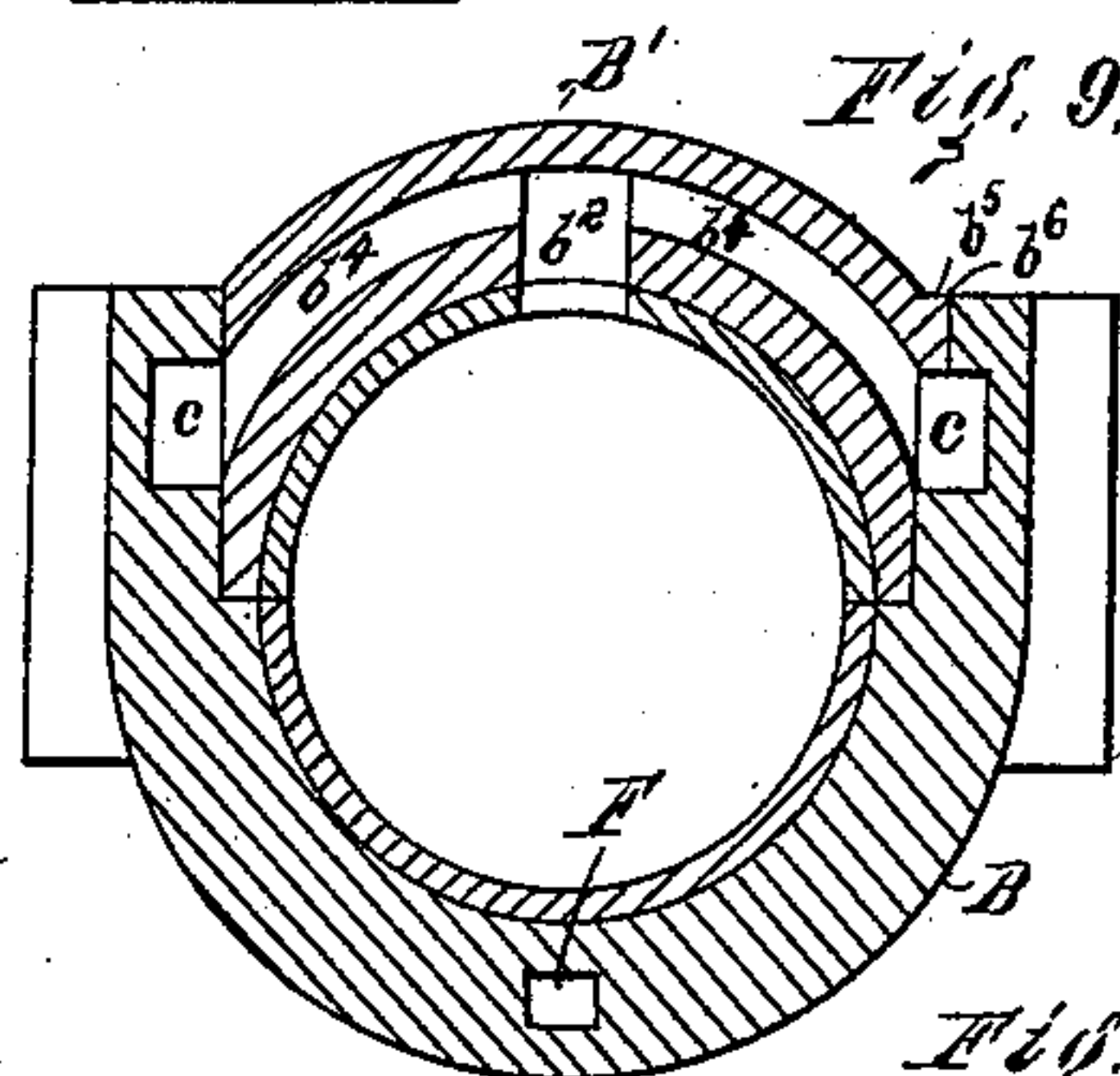
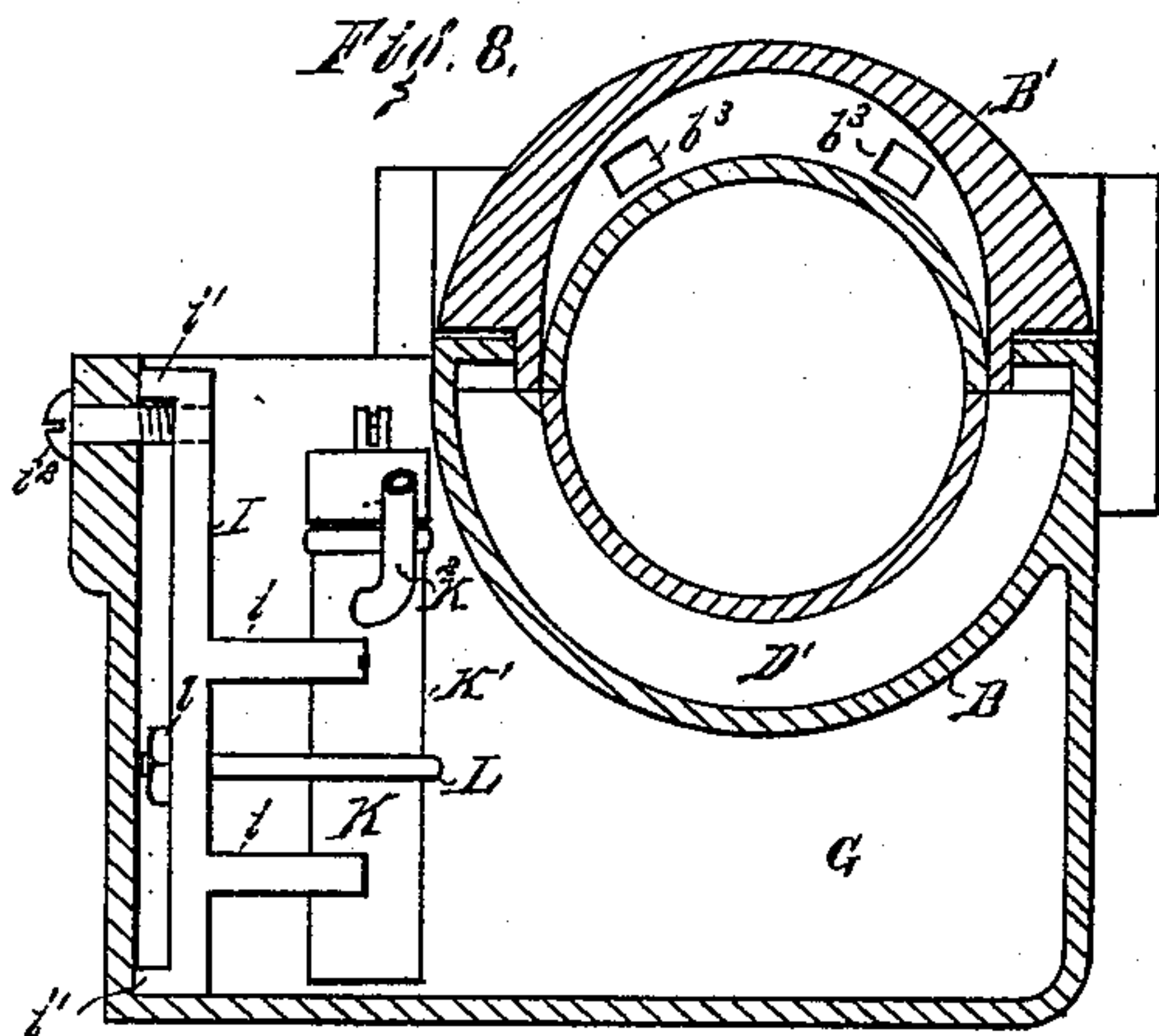
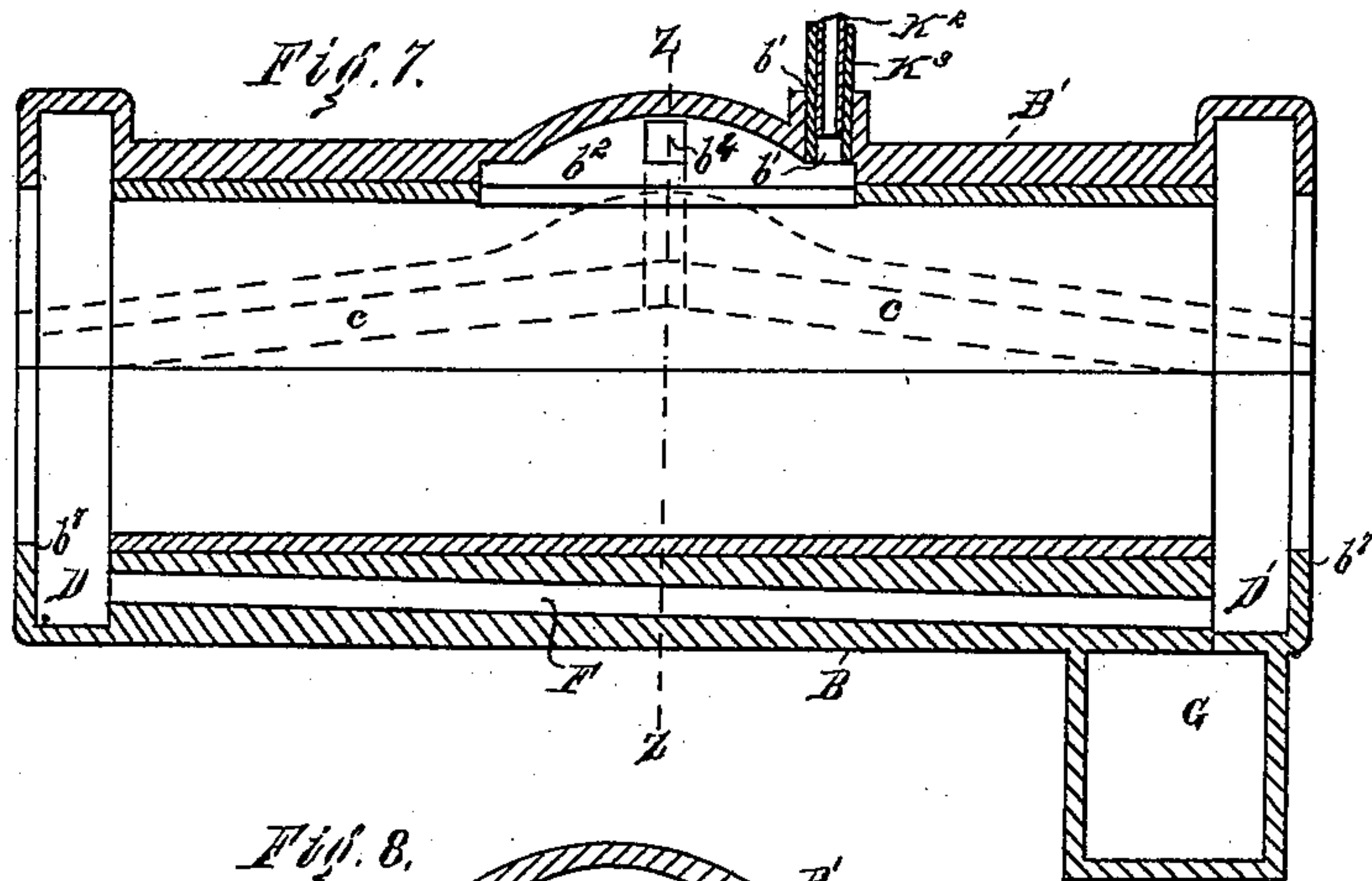
*Henry P. Humphrey,*  
*By Albert M. Moore,*  
*His Attorney.*

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Hickley Hyde,  
Gertrude M. Day.

INVENTOR  
Henry P. Humphrey,  
By Albert W. Moore,  
His Attorney.



# UNITED STATES PATENT OFFICE.

HENRY P. HUMPHREY, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO THE  
LOWELL OILER COMPANY, OF NASHUA, NEW HAMPSHIRE.

## MECHANICAL OILER AND JOURNAL-BOX FOR SHAFTING.

SPECIFICATION forming part of Letters Patent No. 333,950, dated January 5, 1886.

Application filed January 12, 1885. Renewed November 25, 1885. Serial No. 183,944. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY P. HUMPHREY, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Mechanical Oilers and Journal-Boxes for Shafting, of which the following is a specification.

My invention relates to mechanical oilers and journal-boxes; and it consists in the hereinafter-described means of preventing dirt and lint from getting into such oilers and boxes, means of preventing the overflowing of the oil, means of connecting the nozzle of the oiler to the box, and to the construction of the parts.

In the accompanying drawings, on two sheets, Figure 1 is a front elevation of a part of a shaft and my improved oiler and journal-box secured thereto; Fig. 2, an end elevation of said box and oiler; Fig. 3, a plan of the same; Fig. 4, an end elevation of the cam detached and its binding-wire; Fig. 5, a front elevation of the same, omitting one of the wires; Fig. 6, a transverse section of the same on the line *x x* in Fig. 5; Fig. 7, a central longitudinal section of the journal-box and cover; Fig. 8, a vertical transverse section of the journal-box, its cover, and the oiler on the line *y y* in Fig. 1; Fig. 9, a vertical transverse section of said box and cover on the line *z z* in Fig. 7; Fig. 10, a central longitudinal section of the box, the cover being removed; Fig. 11, a transverse section of the box without its cover on the line *w w* in Fig. 10; Fig. 12, a plan of the under side of the journal-box cover.

A is a horizontal shaft. B is the journal-box proper, and B' is its cover. The box B is in some respects similar to that shown in Letters Patent No. 309,954, granted to me December 30, 1884, for mechanical oilers, in having end drip-receivers, D D', an oil-reservoir, G, and a cored-out passage, F, to connect them with each other. The box is also provided with inclined grooves *c c*, which reach from near the middle of the box to the drip-receivers; but these grooves instead of being uncovered are in the inside of the walls of the box B, and are therefore not exposed to the lint and dust which may be floating in the air.

The cover B' is, like the box B, preferably of cast-iron, and constructed with an oil-hole, *b'*, and on the inside with a chamber, *b<sup>2</sup>*, near the top of said cover, into which chamber said oil-hole leads. From this chamber oil-passages *b<sup>3</sup>* lead into the drip-receivers, which are continued around the shaft on the inside of the cover—that is, if we regard the cover as a part of the box, the drip-receivers are annular chambers formed in the inside of the box around the shaft near the ends of said box. Other oil-passages, *b<sup>4</sup>*, lead from said chamber *b<sup>2</sup>* in opposite directions and discharge at the side of said cover into the grooves *c c*, the box being recessed at the top to admit the cover, as shown, the cover being prevented from moving endwise in the box by a lug, *b<sup>5</sup>*, on the side of the cover, which lug enters and fits a notch, *b<sup>6</sup>*, in the box. The passages *b<sup>3</sup> b<sup>4</sup>* are not grooves, but are cored out. The inside of the box B and cover B' are lined with Babbitt or other anti friction metal or alloy between the drip-receivers only, the outer side or ends, *b<sup>7</sup>*, of the box not coming in contact with the shaft. The chamber *b<sup>2</sup>* reaches through the Babbitt metal to the shaft. When the shaft is revolved, any surplus of the oil will be carried thereby in the direction in which the shaft revolves, and be driven partly through two of the passages *b<sup>3</sup>* directly into the drip-receiver, the passages last named being inclined to the axis of the shaft, or through the passages *b<sup>4</sup>* into the grooves *c c*, and thence into the drip-receivers, so that the chamber *b<sup>2</sup>* and oil-hole cannot overflow and oil the outside of the box or cover.

The mechanical oiler or pump K is substantially the same as that shown in Letters Patent No. 309,953, granted to me December 30, 1884, for mechanical oilers for bearings; but it is arranged wholly within the reservoir G, which is closed above the pump by a cap, G', struck up out of sheet metal and hinged on a horizontal stud, *g'*, secured in a projection, *g*, cast on the reservoir. The pump K is secured in a bracket, I, as shown in the Letters Patent first above named, said bracket having horizontal backwardly-extending forked arms or projections *i i*, the forks of which receive the pump-barrel K', and there is a U-shaped strap, L, which clasps the barrel and holds it



in said forks, the ends of said strap L being screw-threaded and extending through said bracket, where they are held by nuts *ll*, turning on them against the front of said bracket.

5 The bracket I in this case, however, instead of being supported upon the outside and top of the reservoir, is wholly within the same, and has at top and bottom flanges *i' i'*, which rest against the inside of the front of the reservoir G, and said bracket is held in place by

10 a single screw, *i<sup>2</sup>*, which passes through the front of said reservoir and into said bracket. Arranging the pump within the reservoir and closing the top of the reservoir prevents the

15 dust in the air and the flyings of fibrous material in factories from getting into the reservoir and subsequently clogging the oil-passages, and from accumulating on the top of the pump. The outer end of the nozzle *K<sup>2</sup>* does

20 not reach into the oil-hole *b'*, but is provided with a sleeve, *K<sup>3</sup>*, which surrounds and slides freely on said outer end. This sleeve *K<sup>3</sup>* fits the oil-hole *b'* closely, and excludes dust and

25 lint therefrom, and may be raised out of said oil-hole when it is desirable to see whether the pump is working satisfactorily, or to remove the cover *B'* from the box B. The lever M turns in a notch in the top of the side of the reservoir G, one end of said lever being jointed to

30 the top of the piston-rod, and the other being provided with an eye, *m*, into which a hook, *n*, on the upper end of the connecting-rod N catches. The lower end of the connecting-rod is threaded and passes through a lever, P, piv-

35 oted on a horizontal stud, *g<sup>2</sup>*, secured to the projection *g*, and engages with a nut, *n'*, which is prevented from accidentally turning by a flange, *p*, on said lever. The lever P is operated

40 by a cam, W, which, instead of being a wiper, as shown in said patent, is substantially an eccentric on the shaft. The cam W is made from a strip of metal, preferably wrought-iron or steel, long enough to go about half-way around

45 the shaft, is scarfed down to an edge at each end, and has longitudinal grooves *v v* milled in the same near its edges, the strip being scarfed only between the grooves. The strip is then bent into a half-circle with the grooves *v v* on the outside, and is applied to the shaft,

50 and held in place by wires *v' v'*, surrounding the cam and shaft and laid within the grooves *v v*, the ends of the wires being united by twisting them together, as shown in Figs. 4, 5, and 6.

The above-described construction and means  
 55 of attachment of the cam W is inexpensive and effectual, and allows of the cam being readily attached to and detached from the shaft at any

point. The greatest thickness of the cam need not exceed a sixteenth of an inch in ordinary cases.

To prevent the wear of the cam W and lever P on each other, I cover the top of said lever where it touches the cam with a strip of leath-  
 eroid, *p'*. This substance is superior to met-  
 als, because the friction is less, and it is supe-  
 65 rior to rawhide, because it is not softened by oil.

I claim as my invention—

1. The journal-box proper, provided with end drip-receivers, inclined grooves on the in-  
 side of said box near the top of the same and  
 leading from points about midway between the  
 ends of said box into said drip-receivers, the  
 cover having a chamber on the inside of the  
 top of the same, an oil-hole leading through the  
 top of said cover into said chamber, and oil-  
 passages leading from said chamber into said  
 inclined grooves, as and for the purpose speci-  
 70 fied.

2. The combination of the box proper pro-  
 80 vided with end drip-receivers, and the cover having a chamber in the inside of the top of the same, an oil-hole leading through said cover into said chamber, and oil-passages cored out in said cover and leading from said cham-  
 85 ber into said drip-receivers, as and for the purpose specified.

3. The combination of the box, its cover having an oil-hole communicating with the in-  
 terior of said cover and box, the pump having  
 a nozzle, the free end of which extends over said  
 oil-hole, and a sleeve surrounding said free end  
 of said nozzle and sliding freely thereon and  
 adapted to enter said oil-hole and fit the same,  
 as and for the purpose specified.

4. The cam or eccentric provided near its side edges with grooves and adapted to be  
 wrapped partly around a shaft and to be held  
 thereon by wires laid in said grooves and fast-  
 ened around said shaft, as and for the purpose  
 100 specified.

5. The cam or eccentric formed of a strip of metal, provided near its side edges with  
 grooves, and scarfed at each end to an edge  
 between said grooves, and adapted to be  
 wrapped partly around a shaft and to be held  
 thereon by wires laid in said grooves and fast-  
 ened around said shaft, as and for the purpose  
 105 specified.

HENRY P. HUMPHREY.

Witnesses:

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 GERTRUDE M. DAY.