

(No Model.)

2 Sheets—Sheet 1.

C. M. DREYER.
HYDRAULIC CYLINDER LUBRICATOR.

No. 424,186.

Patented Mar. 25, 1890.

Fig. 1.

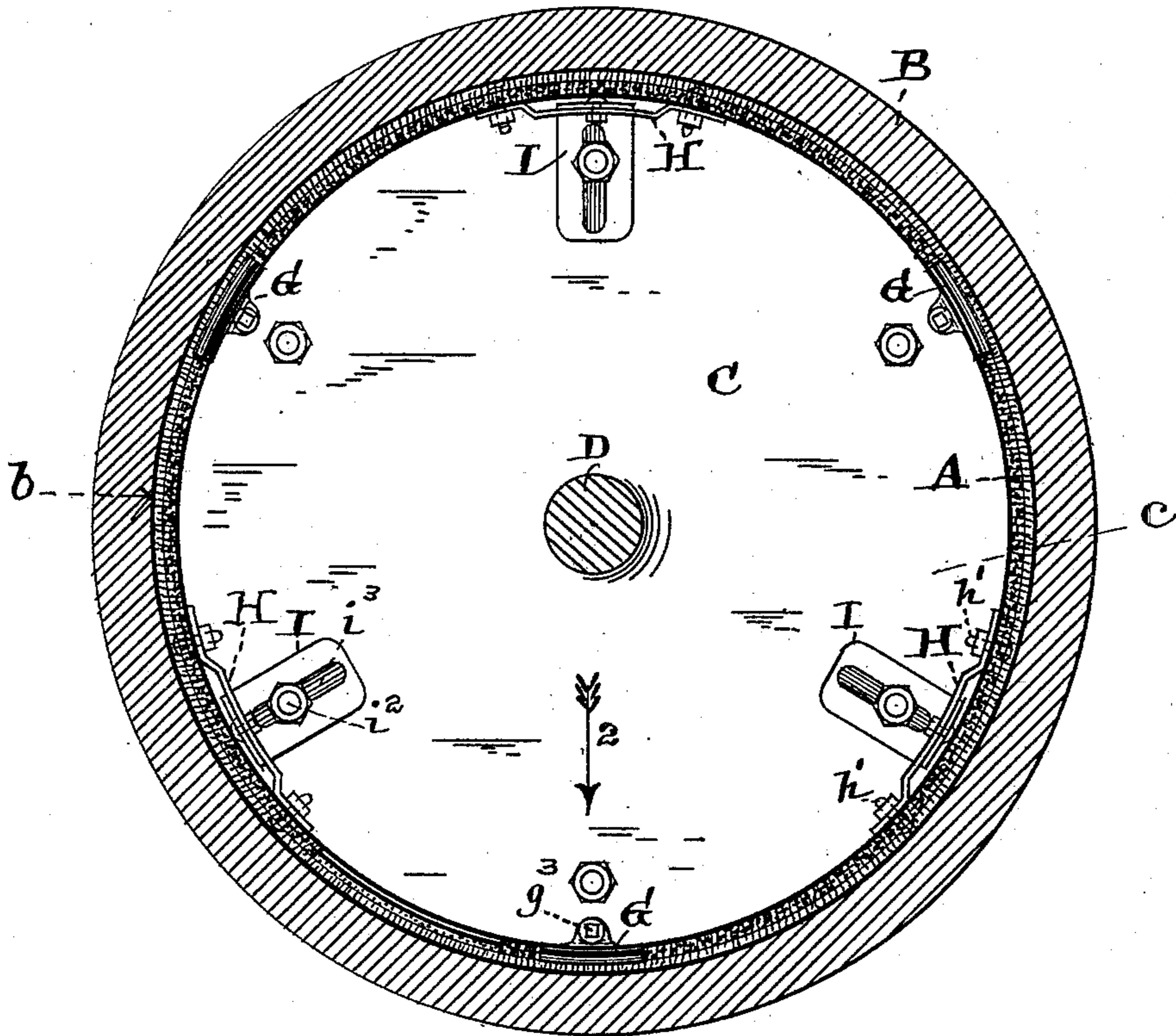


Fig. 2

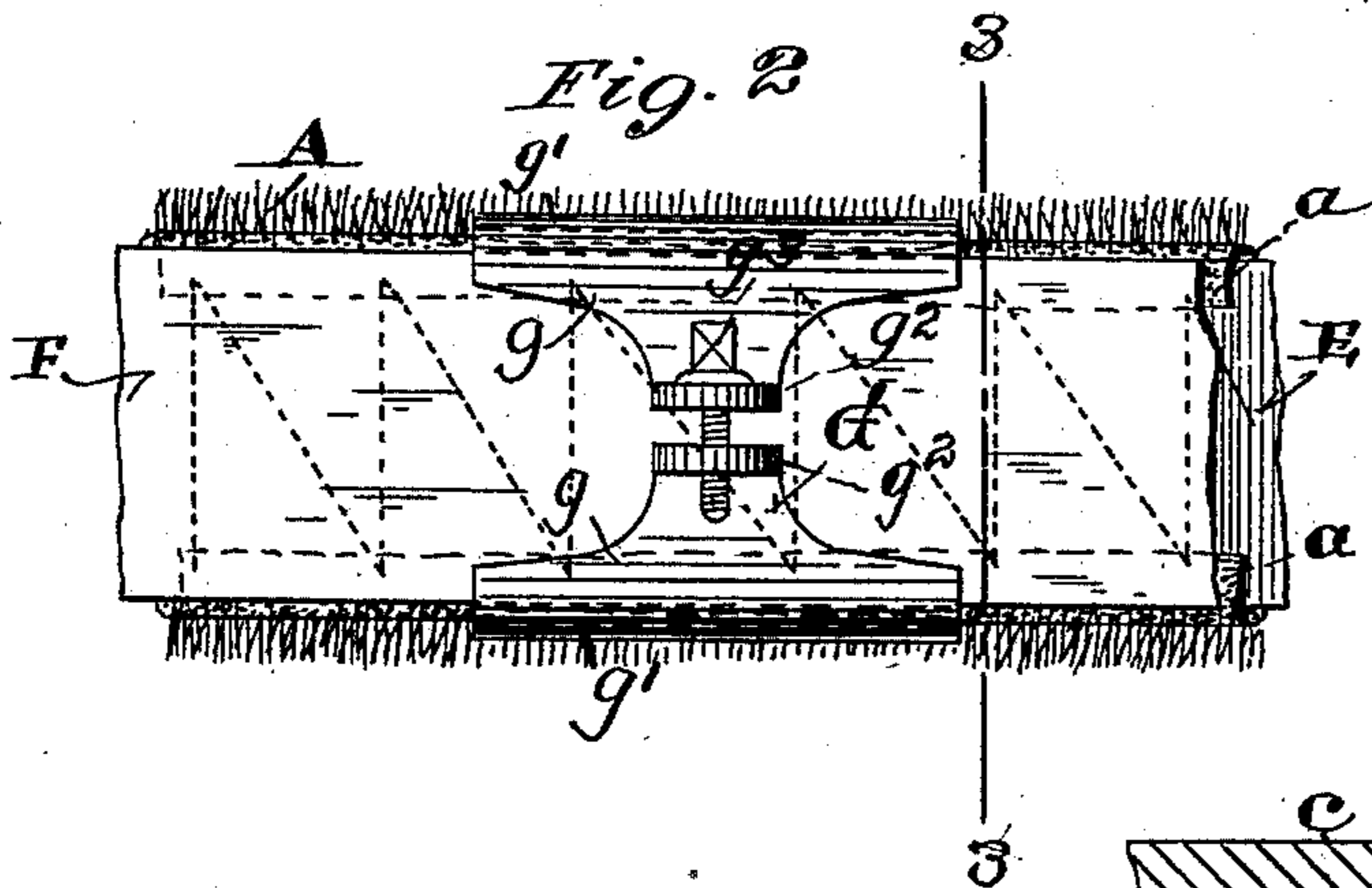
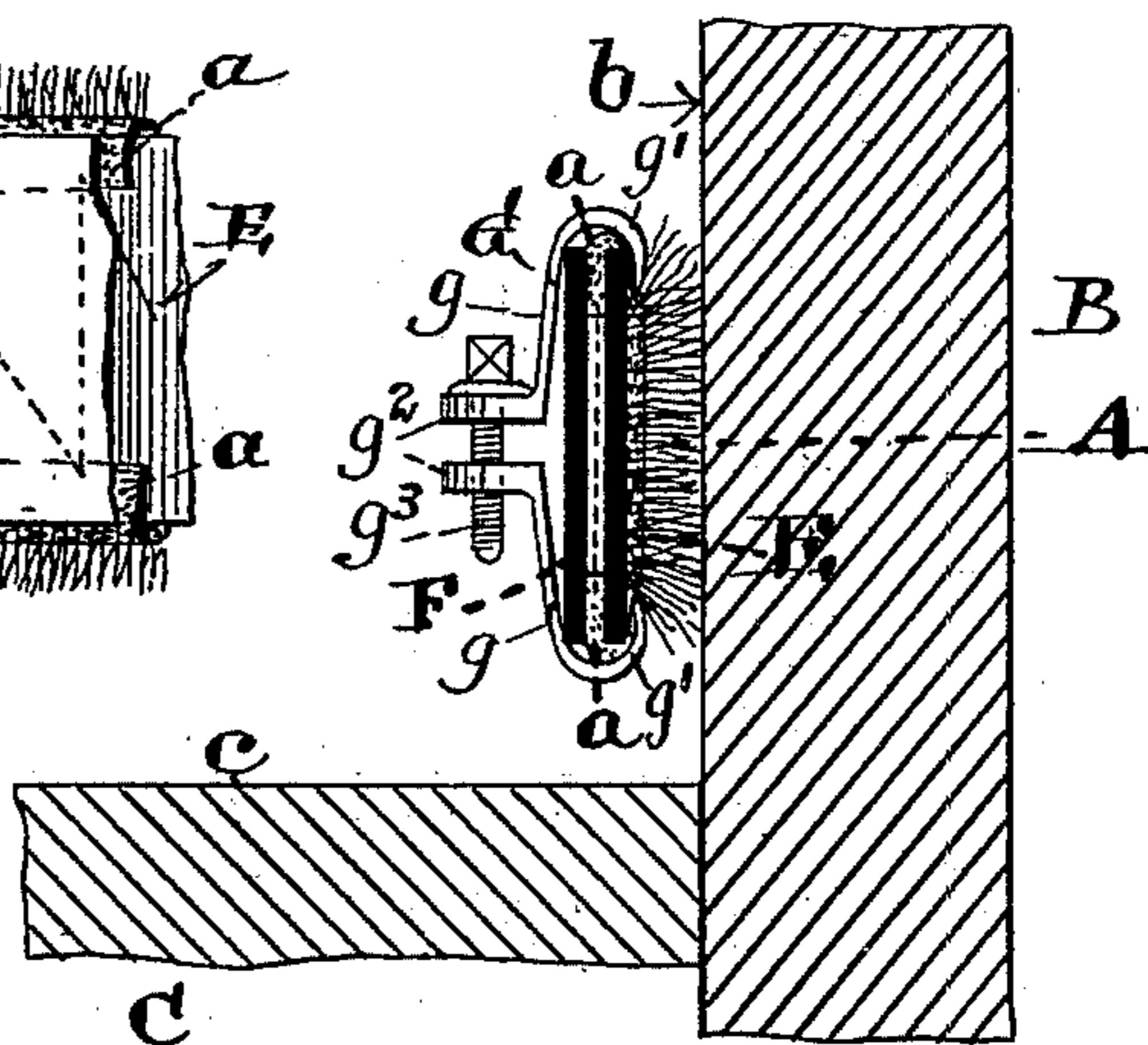


Fig. 3.



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Fig. 4.

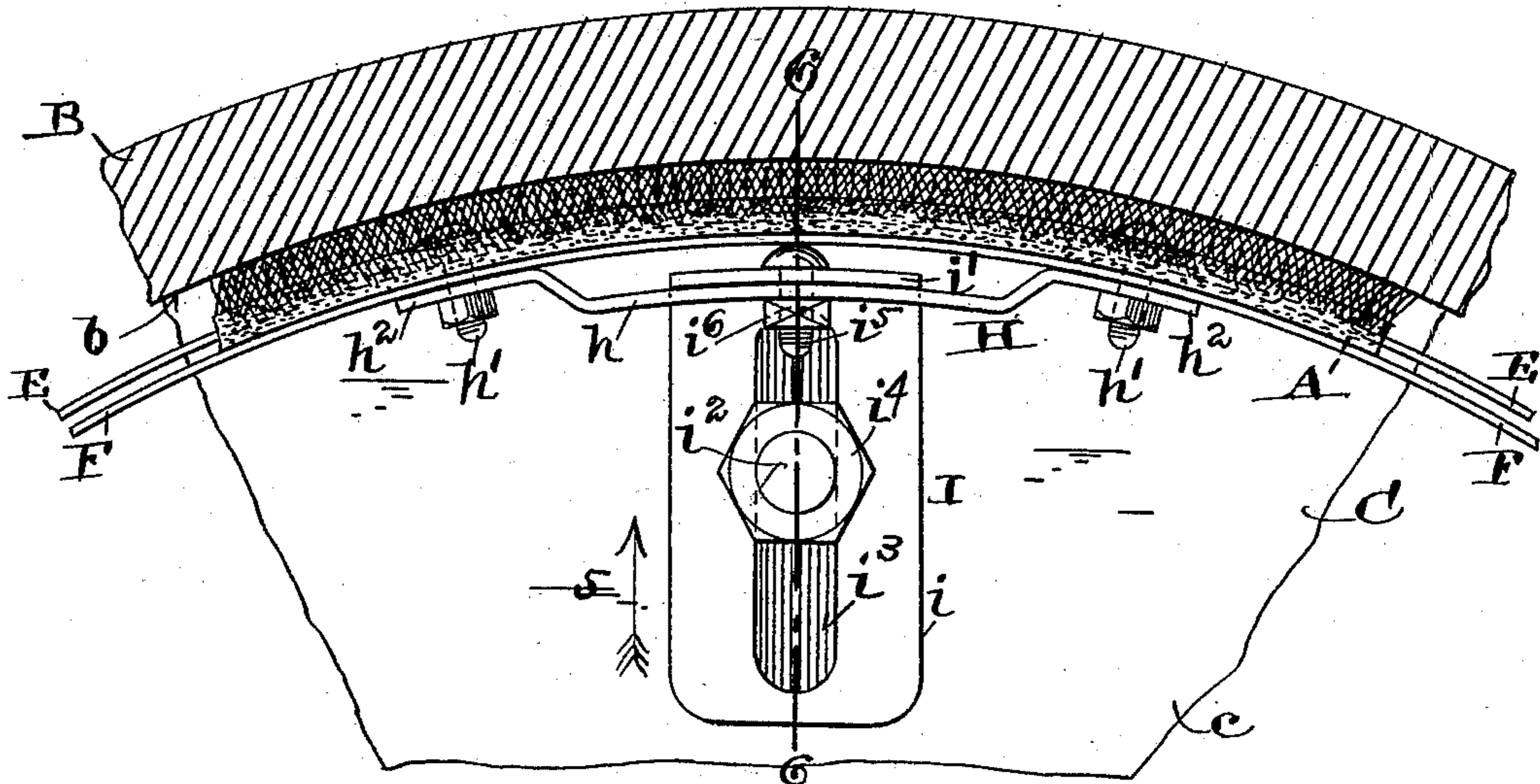


Fig. 5.

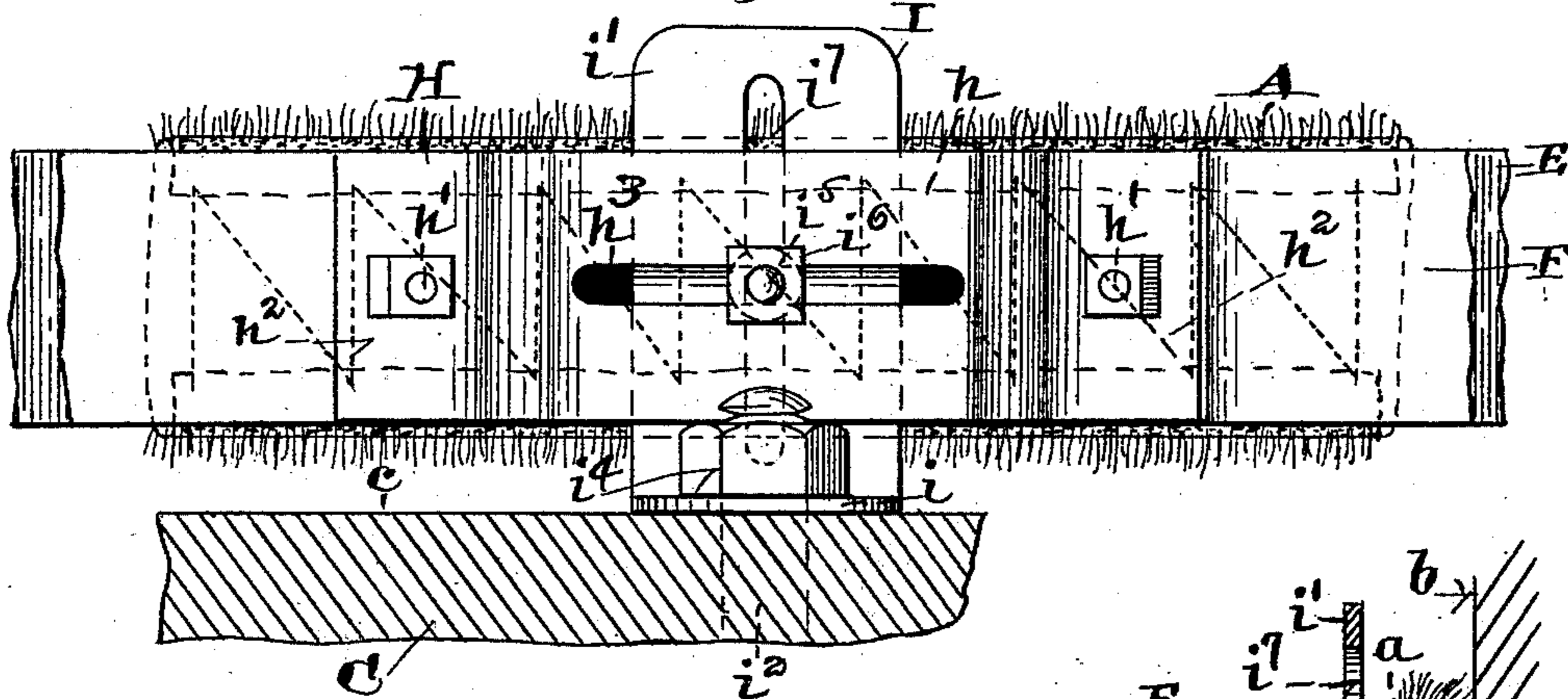
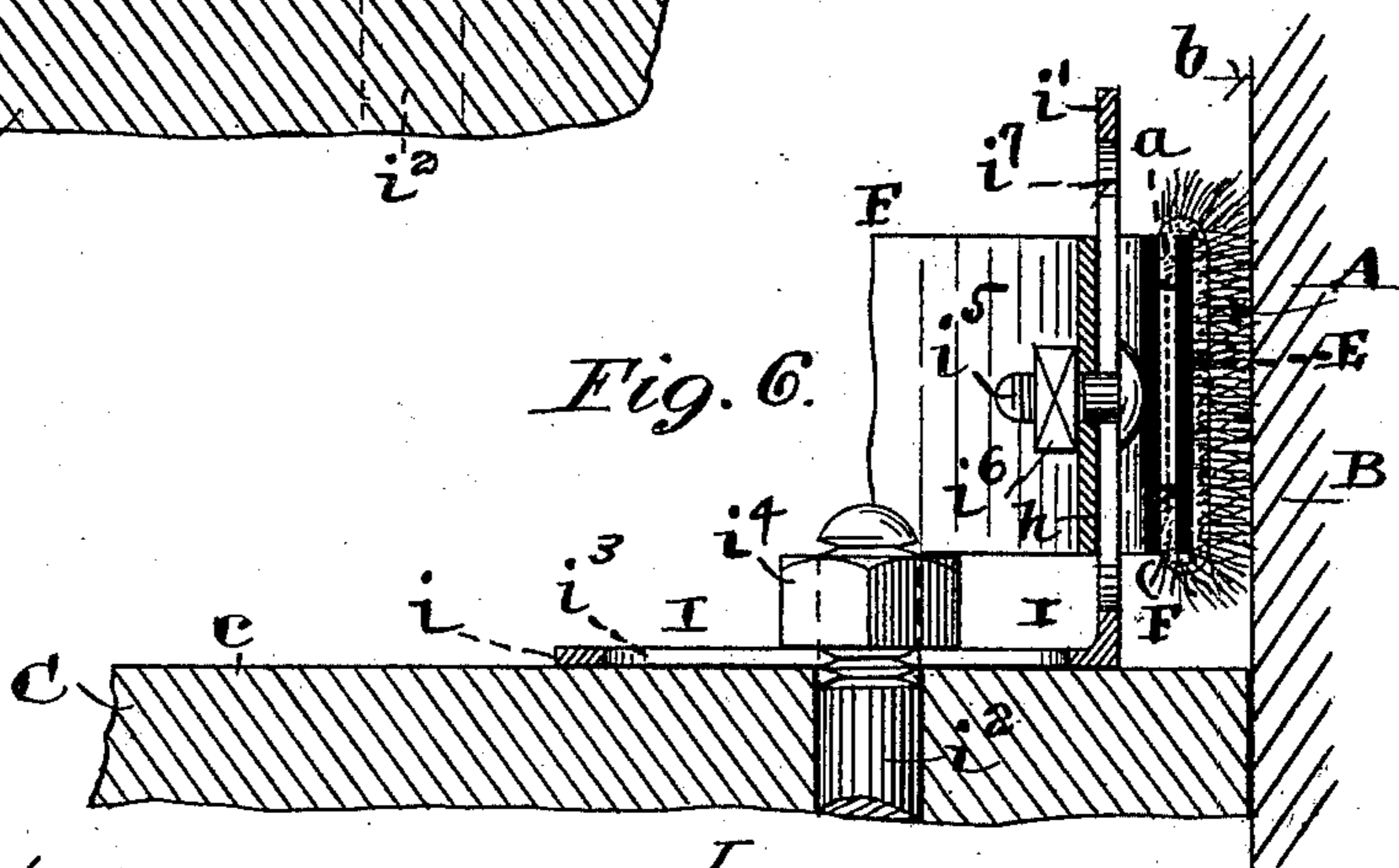


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES M. DREYER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO JAMES H. BROOKMIRE, OF SAME PLACE.

HYDRAULIC-CYLINDER LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 424,186, dated March 25, 1890.

Application filed January 9, 1890. Serial No. 336,368. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. DREYER, of St. Louis, Missouri, have made a new and useful Improvement in Hydraulic-Cylinder Lubricators, of which the following is a full, clear, and exact description.

The present invention has for its object in part a lubricant-holder adapted to be applied to the piston of a hydraulic cylinder without interfering with the bolts which are used to unite the piston parts or without barring access to them. The improved lubricant-holder is further desirable in being readily adjustable with reference to the piston and to the inner surface of the cylinder.

It consists in a system of bands and lugs, the bands being used to support the lubricant-holder, and in turn being supported by the lugs which are attached to the piston, and the bands and lugs being variously adjustable, all substantially as is hereinafter set forth and claimed, aided by the annexed drawings, making part of this specification, in which—

Figure 1 is a cross-section of a hydraulic cylinder having the improved lubricant-holder; Fig. 2, a view from the interior in the direction of the arrow 2, Fig. 1, showing a portion of the holder; Fig. 3, a section on the line 3 3 of Fig. 2. The view includes a portion of the cylinder-shell and the piston. Fig. 4 is a view upon a larger scale from the same point of view as that of Fig. 1, showing a portion of the cylinder-shell and lubricant-holder; Fig. 5, an inside view—that is, looking in the direction of the arrow 5, Fig. 4—of the parts of Fig. 4; and Fig. 6, a section on the line 6 6 of Fig. 4.

The last five named views are upon the same scale.

The same letters of reference denote the same parts.

The part A, which carries the lubricant, is usually a piece of material—such as woolly sheep-skin—adapted for receiving and holding the lubricant and to be used as a swab in applying the lubricant to the inner surface *b* of the cylinder-shell B, and the lubricant is any of the customary substances used

for lubricating a hydraulic cylinder. The cylinder-shell B, piston C, and piston-rod D, which are the only parts of a hydraulic cylinder shown in the drawings, are of the usual form. The holder A is immediately sustained upon a band E of some springy material—such as steel—and capable of supporting the holder against the surface *b*. The holder is wider than the band, and its side edges *a a* are turned over the edges of the band and confined by means of an inner band F, which is clamped to the outer band E, so as to secure the interposed edges *a a*. Various forms of clamps can be used. I prefer the ones shown—namely, the devices G and H. The clamp G consists, substantially, of two plates *g g*, whose outer ends *g' g'* respectively are shaped to pass over the edges of the bands and holder, as shown, and whose inner ends *g² g²* come within the inner band and shaped into flanges, which are united by the threaded bolts *g³*, substantially as shown. By screwing the bolt *g³* into the flanges the plates *g g* are drawn together, and the bands thereby clamped together. A series of the clamps G may be used, as shown. The clamps H consist, mainly, as follows: A plate or bar *h* at its middle portion shaped to stand apart from the inner band is applied to the inner face of the inner band F and is secured thereto by means of the bolts *h' h'*, which pass through the ends *h² h²* of the plate *h*, and also through both bands, and preferably, also, through the holder, all substantially as shown. The wool of the holder in practice comes between the outer end of the bolt *h'* and the cylinder-surface *b*. The bands and holder thus clamped together are adjustably supported in position as follows: I I I represent a series of lugs adapted to be attached to the piston C, and also to the clamps H H H, to which they respectively belong. The lugs in edge elevation are substantially right-angular in shape, being composed of the arms *i* and *i'*. The lug is secured to the piston by a bolt *i²*, which passes through an opening *i³* in the arm *i* and into the piston, substantially as shown. The bolt *i²* may be one which regularly belongs to the piston, having the nut *i⁴*. The

lug is secured to the clamp H by a bolt i^5 and nut i^6 . The bolt passes through an opening i^7 in the arm i' and through an opening h^3 in the plate h . The openings i^3 , i^7 , and h^3 are
 5 elongated, as shown, to provide for various adjustments of the lubricant-holder and its support. By means of the elongated opening i^3 the lugs I can be adjusted radially on the piston, and the holder A thereby set nearer
 10 to or farther from the cylinder-surface. By means of the elongated opening i^7 the bands and holder can be set nearer to or farther from the piston end c , and by means of the elongated opening h^3 the bands and holder
 15 can to a certain extent be turned around within the cylinder, all of which adjustments have proved quite desirable in practice, and especially in attaching the improved device to that construction on the market known
 20 as the "Crane elevator." The ends of the bands E F lap, thereby providing for the enlargement or contraction of the bands.

The present device can be applied to either
 25 end of the piston that it is desirable to attach it to.

I claim—

1. The combination of the holder A, the bands E F, the clamps G, and the clamps H, substantially as described.

2. The combination of the cylinder, the 30 piston, the lugs I, the clamps H, and the bands and holder, substantially as described.

3. The combination of the piston, the lugs I, and the clamps H, said lugs being radially adjustable upon said piston, substantially as 35 and for the purpose described.

4. The combination of the piston, the lugs I, and the clamps H, said clamps being adjustable toward and from said piston end, substantially as described. 40

5. The combination of the cylinder, the piston, the lugs I, and the clamps, said clamps being adjustable in a rotary direction upon said lugs, substantially as described.

Witness my hand this 21st day of Decem- 45 ber, 1889.

CHARLES M. DREYER.

Witnesses:

JAS. H. PRESTER,

JAS. G. GRACEY.