H. G. SHORTT.

ADJUSTABLE OIL FEED FOR JOURNALS.

APPLICATION FILED OCT. 1, 1909.

955,608.

Patented Apr. 19, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

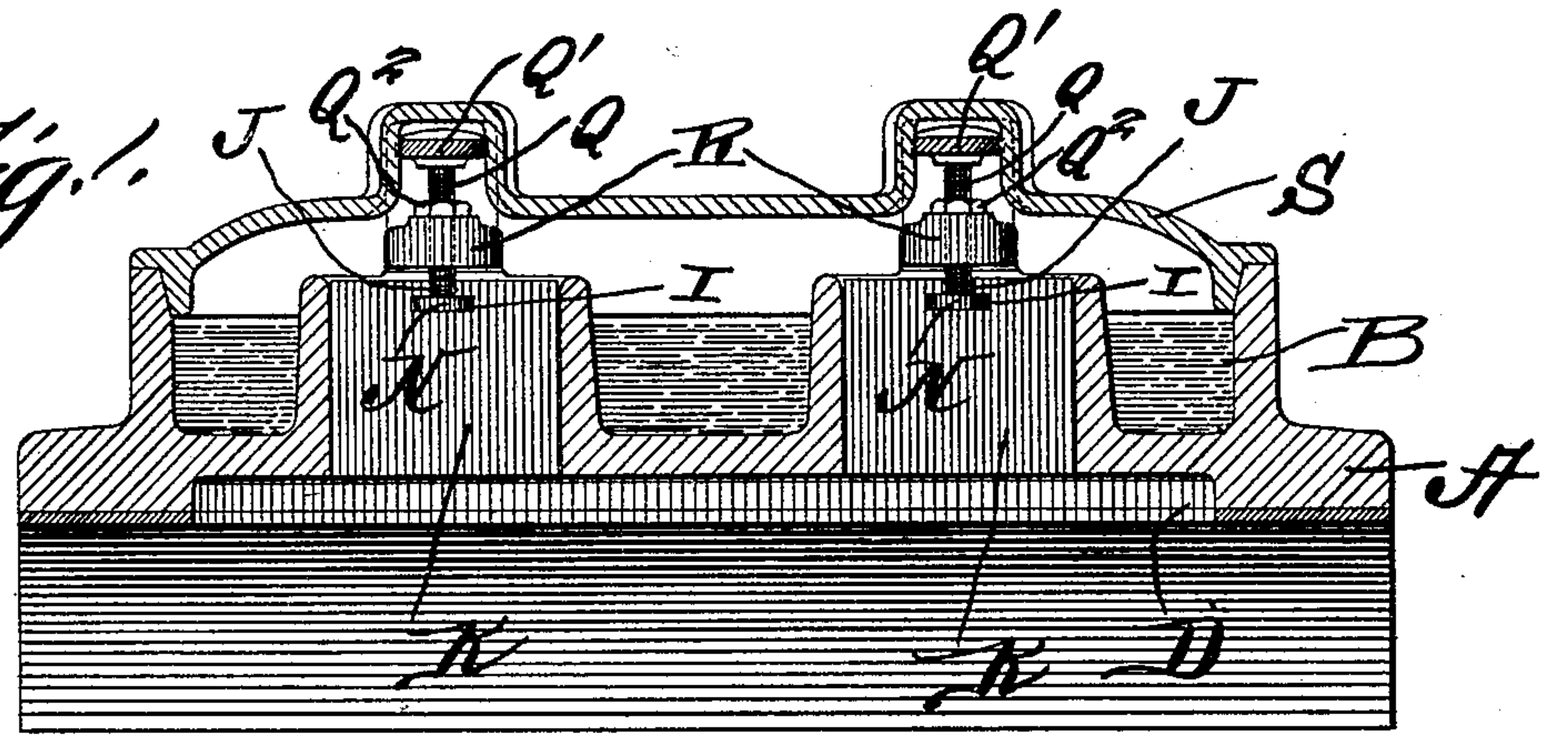


Fig. 2.

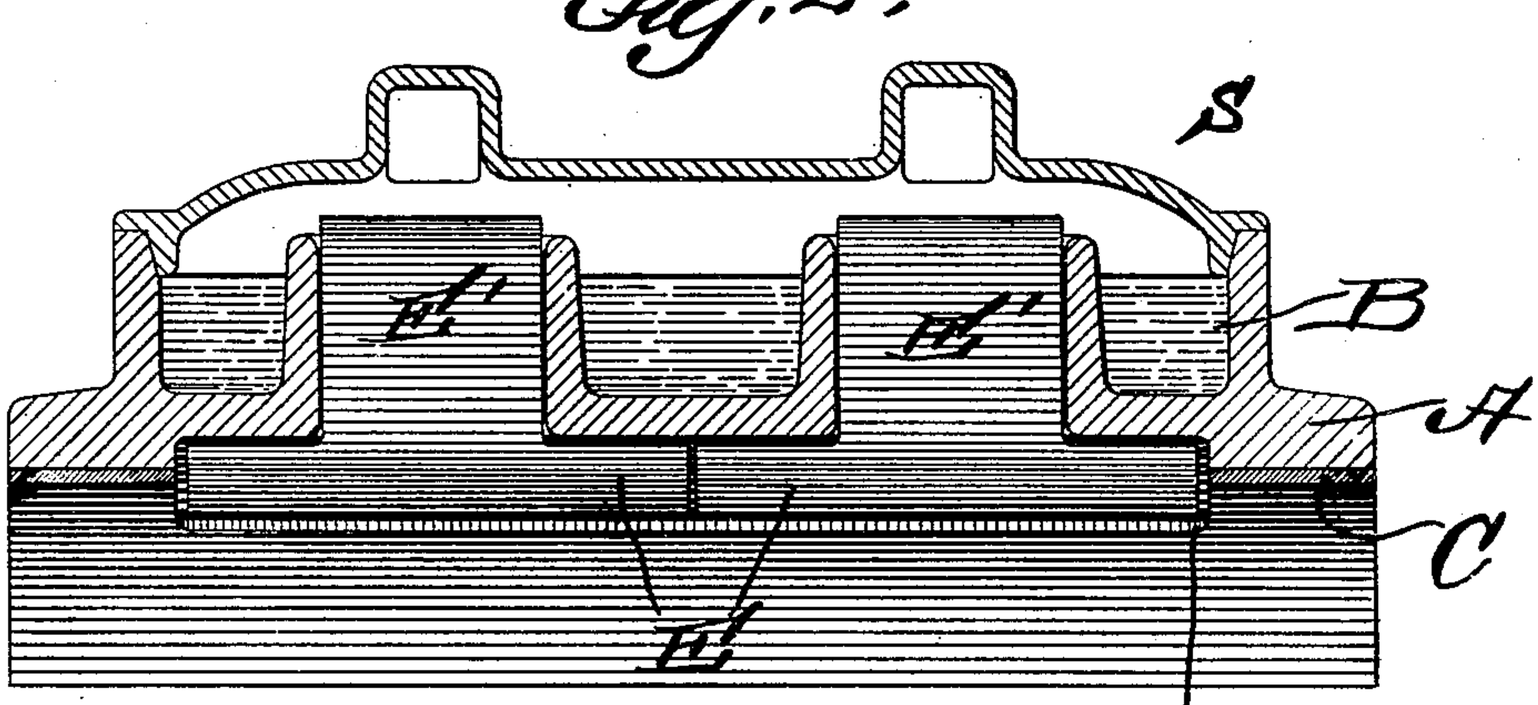
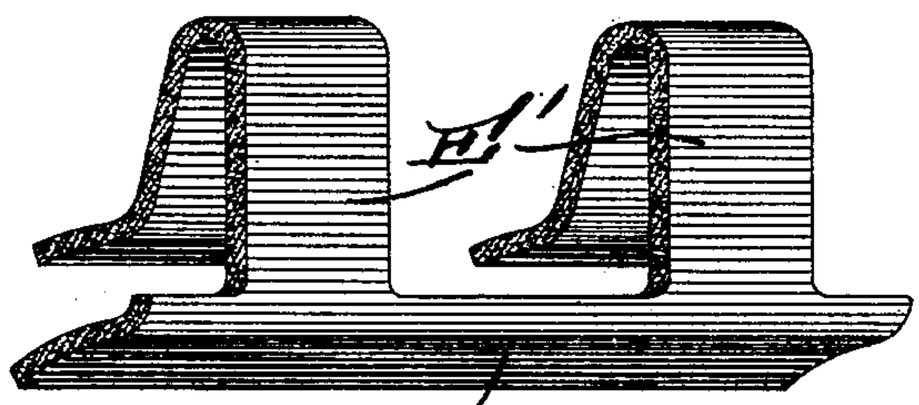


Fig. 3.



WITNESSES

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Fig. 5.

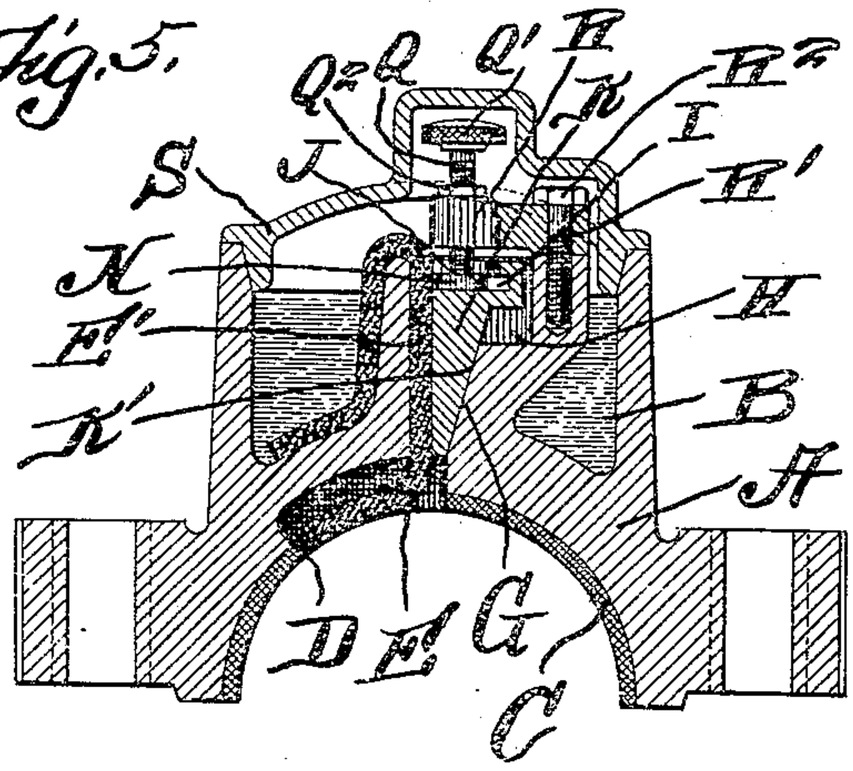


Fig. 9.

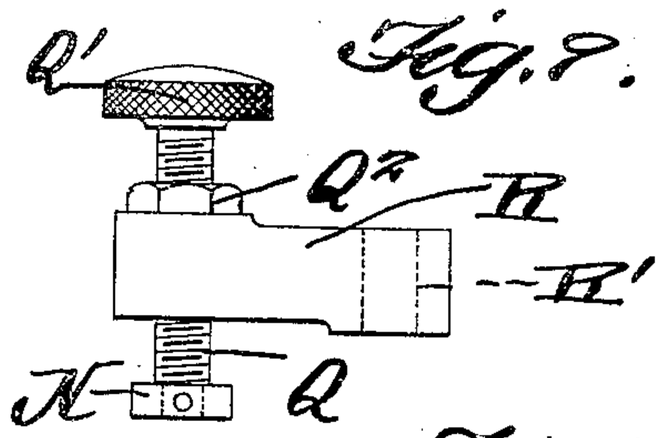


Fig. 10.

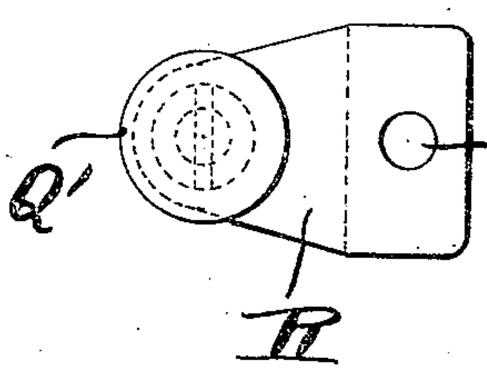


Fig. 4.

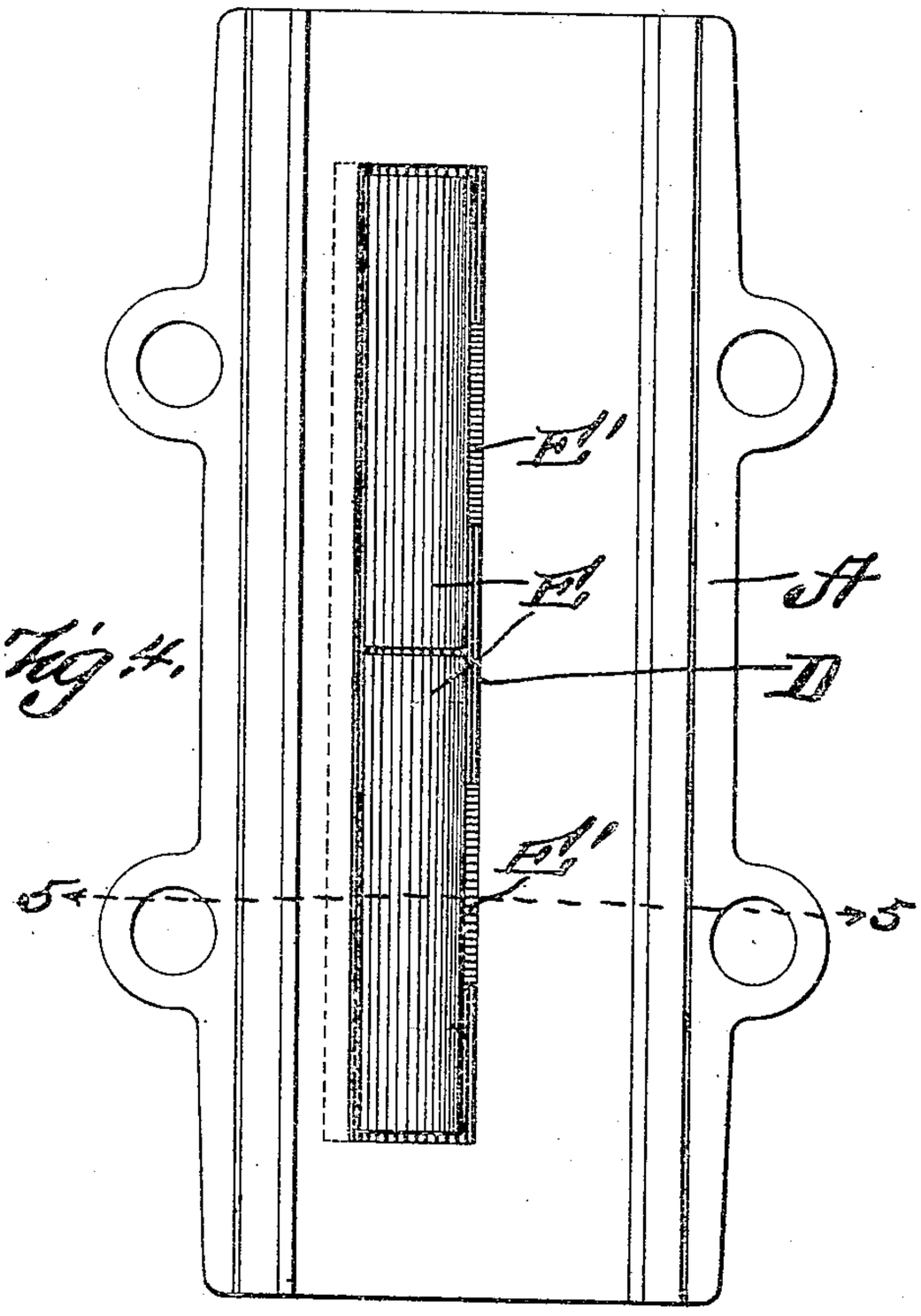


Fig. 6.

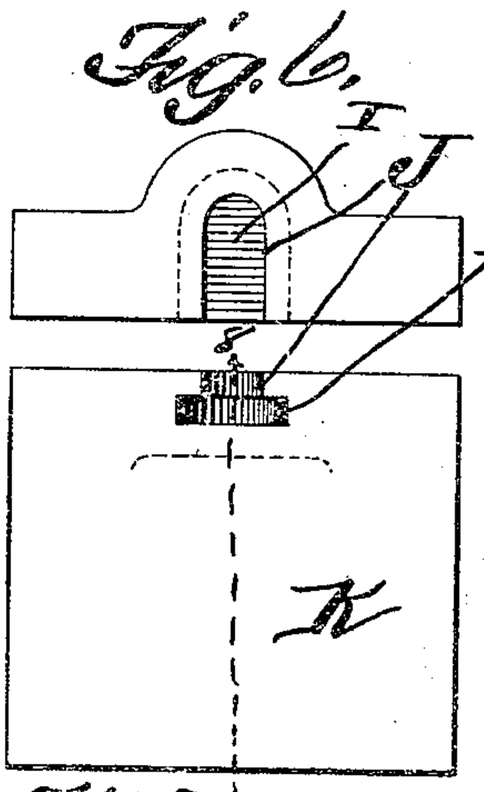


Fig. 8.

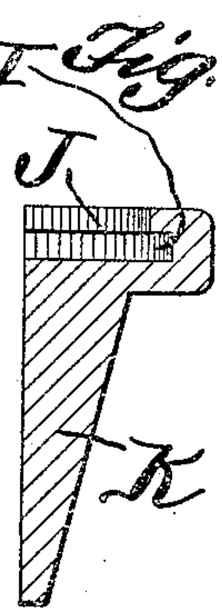
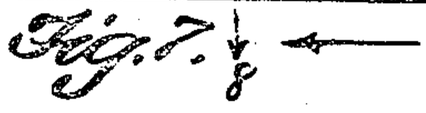


Fig. 7.



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3 SHEETS—SHEET 3.

Fig. 11.

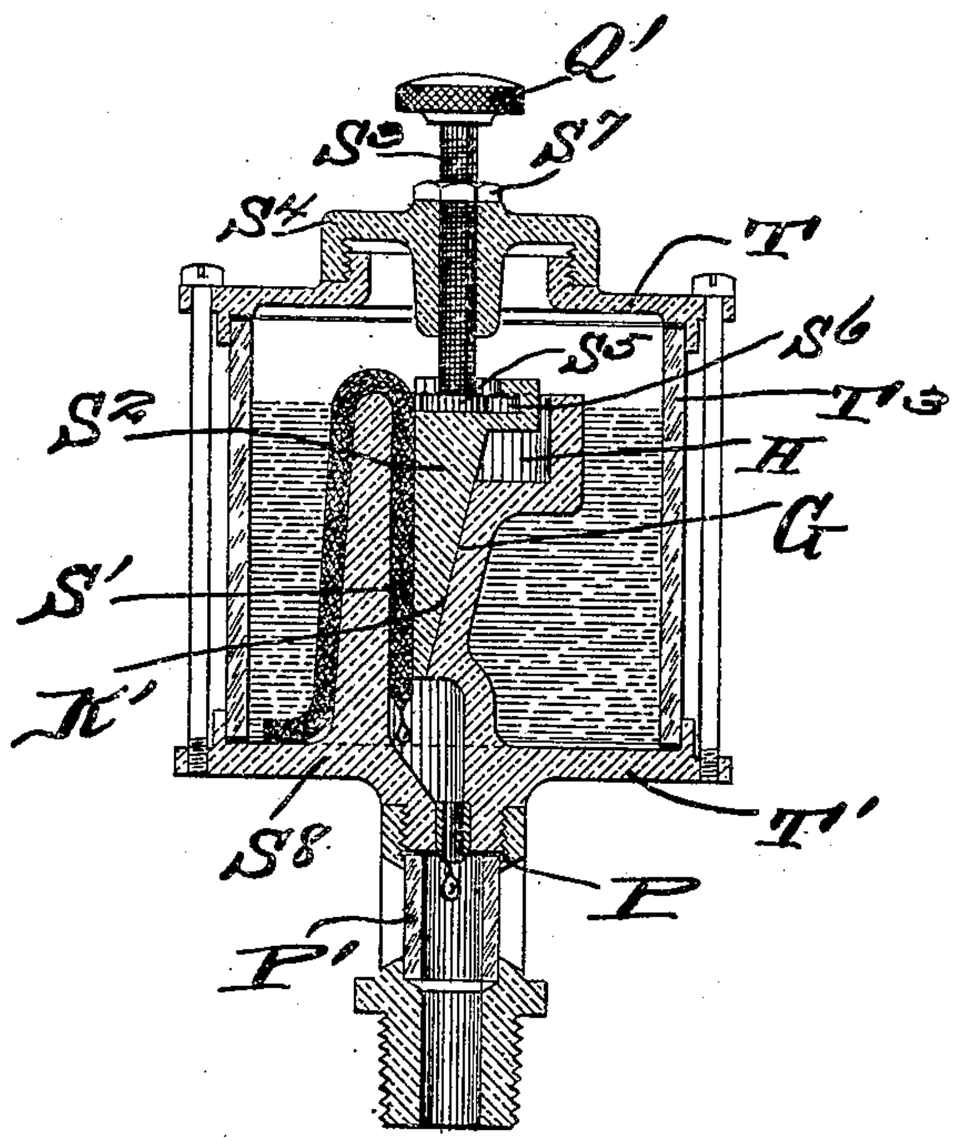
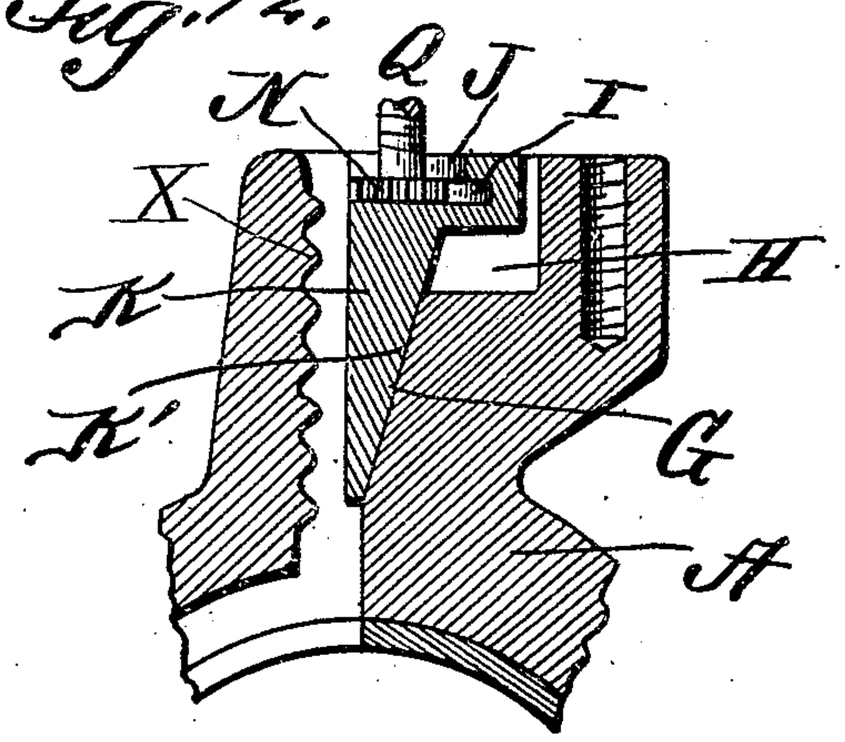


Fig. 12.



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UNITED STATES PATENT OFFICE.

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ADJUSTABLE OIL-FEED FOR JOURNALS.

955,608. Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed October 1, 1909. Serial No. 520,444.

To all whom it may concern:

Be it known that I, HOWARD G. SHORTT, a citizen of the United States, residing at Carthage, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Adjustable Oil-Feeds for Journals; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in adjustable oil feeding apparatus for journal bearings, oil cups, etc., and comprises various details of construction and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

My invention is fully illustrated in the accompanying drawings which, with the letters of reference marked thereon, form a part of this application and in which:—

Figure 1 is a vertical central sectional view through a bearing cap of a journal bearing. Fig. 2 is a similar view showing the strips of absorbent material positioned within cavities formed in the concaved bearing surface of the cap. Fig. 3 is an enlarged detail view of an absorbent strip or pad. Fig. 4 is a top plan view. Fig. 5 is a sectional view on line 5—5 of Fig. 4. Fig. 6 is a top plan detail view of the wedge member. Fig. 7 is a side elevation of the wedge member shown in Fig. 6. Fig. 8 is a cross sectional view centrally through the same taken on line 8—8 of Fig. 7. Fig. 9 is a detail in elevation of the screw for moving the wedge shaped member. Fig. 10 is a top plan view of the detail shown in Fig. 9. Fig. 11 is a modified form of the device as applied to an oil cup, and Fig. 12 is a detailed modification.

Reference now being had to the details of the drawings by letter, A designates a shaft bearing cap provided with an oil receptacle B. Said cap, which is provided with a suitable lining C, has a cavity or recess D formed in the concaved surface thereof, clearly shown in Fig. 5 of the drawings, and adapted to receive a strip or wick of absorbent material E which, in Fig. 3 of the drawings, is shown in a single piece and having two laterally projecting portions E′, each of which extends through an individual passageway and leads into the oil receptacle B, or said absorbent material may be made in sections if desired, as shown in Figs. 2 and 4 of the drawings. It will be noted upon reference to Fig. 5 of the drawings that one wall G of the passageway leading from said cavity through the cap and in which passageway the wicks or strips of absorbent material are adapted to pass is inclined and that the portion of the passageway at the top of the inclined wall is provided with a laterally extending recess H. A wedge shaped member, designated by letter K, is mounted within said passageway and has an inclined edge K′ adapted to contact with the inclined wall of the passageway and its opposite edge is vertical or parallel with the opposite wall of the passageway between which parallel walls the wick or strip of absorbent material is positioned. The outer flaring end of said member K is adapted to be positioned within said recess H and is transversely recessed as at I, shown clearly in Figs. 5 and 6 of the drawings, and the top of the member K leading into said recess or chamber I is slotted as at J for the reception of the shank Q of the screw Q′, enlarged detail views of which are shown in Figs. 9 and 10 of the drawings.

Swiveled to the inner end of the screw Q is a head N which engages underneath the overhanging wall of the transversely chambered or recessed portion J in the manner shown clearly in Fig. 1 of the drawings so that, as the screw is turned in one direction, said head coming in contact with the overhanging wall of the recess in the wedge shaped member may cause the latter to be raised. By reason of the elongated slot leading into said chambered portion, it will be noted that the screw may be held in the same vertical position and still act upon the wedge shaped member even though the same is moved laterally. The screw Q is mounted in a threaded apertured bracket arm R, details of which are shown in Figs. 9 and 10 of the drawings, and Q^2 is a jam nut or lock nut fitted upon said screw and adapted to bear against the upper edge of the arm R. Said bracket arm is apertured as at R′ for the reception of a screw R^2 for holding the bracket arm securely to the shaft bearing

cap. A dust proof cap, designated by letter S, is fitted over the oil receptacle and the operative parts of the adjusting means for regulating the capillary flow of oil through the absorbent strip or wick.

In Fig. 11 of the drawings, I have shown the application of my invention to an ordinary oil cup, comprising a top T and bottom T′ which clamp respectively over the upper and lower edges of the cylindrical glass portion T^3, said bottom being provided with an upwardly extending portion S^8 which is chambered for the reception of the strip of absorbent material S′ and also receives a wedge shaped compressor member S^2 which has an inclined face bearing against one of the inclined walls of the passageway in said projecting part S, and S^3 is a screw mounted in a threaded aperture in the cap S^4 which fits over the threaded shoulder about an opening in the top T. The inner end of the screw S^3 is provided with a swiveled head S^5 engaging the chambered portion S^6 formed in the upper portion of the member S^2, said screw passing through a slot, as shown in a similar manner as before described and illustrated in the other views of the drawings. A jam nut S^7 is fitted upon the screw S^3 and is adapted to hold the screw in an adjusted position. Connected to a contracted extension leading from the bottom T′ of the cup is a union P having a transparent pipe P′ therein, affording means for convenience in viewing the feed of the oil from the exit opening in the bottom of the oil cup.

From the foregoing, it will be noted that, by the provision of the apparatus shown, the capillary feed of the oil to the bearing surface of a journal may be regulated by raising or lowering the wedge shaped member, the lowering of the same or movement of the member toward the bearing surface tending to coöperate with the opposite wall of the passageway through which the absorbent strip or wick passes to constrict the latter or check the flow of oil when a reverse or outer movement imparted to said member will cause the oil to be fed freely to the bearing surface, the inner end of said wick which is positioned within said cavity having a considerable bearing surface upon the shaft against which it wipes.

It will be noted in Figs. 1 and 2 of the drawings that the cavity in which the absorbent material is positioned extends nearly the length of the cap, thus evenly distributing the lubricant over a considerable portion of the bearing surface. By the provision of a device as shown, the oil will be thoroughly filtered, any sediment which might be in the oil remaining within the receptacle containing the same. By making the absorbent strips or wicks in two pieces as shown in Figs. 2 and 4 of the drawings, the same may be easily removed without taking the bearing cap from the shaft.

Upon reference to Fig. 12 of the drawings, it will be noted that I have shown a slight modification of the invention in which I provide corrugations X upon one of the side walls of the passageway through which the wick of absorbent material passes and provided for the purpose of holding the latter in place.

What I claim to be new is:—

1. An adjustable oil feed for journals, comprising a shaft bearing cap having an oil receptacle formed therein and provided with a cavity formed in its concaved bearing surface, a strip of absorbent material having a portion thereof positioned within said cavity and adapted to contact with the bearing surface of a shaft and extending through a passageway leading from the cavity to the oil receptacle, an adjustable wedge shaped compressor member movable within said passageway and having a face coöperating with one wall of the passageway to regulate the flow of oil through said absorbent strip, a screw mounted in a threaded aperture in an arm upon said cap and having a swiveled head connected to said wedge shaped compressor member.

2. An adjustable oil feed for journals, comprising a shaft bearing cap having an oil receptacle formed therein and provided with a cavity formed in its concaved bearing surface, a strip of absorbent material having a portion thereof positioned within said cavity and adapted to contact with the bearing surface of a shaft and extending through a passageway leading from the cavity to the oil receptacle, an adjustable wedge shaped compressor member movable within said passageway and having a face coöperating with one wall of the passageway to regulate the flow of oil through said absorbent strip, a screw mounted in a threaded aperture in an arm upon said cap and having a swiveled head, said compressor member having a transverse chambered portion with a slot leading through the wall thereof and in which chambered portion the swiveled head of said screw is positioned, the shank of the screw extending through the slot.

3. An adjustable oil feed for journals, comprising a shaft bearing cap having an oil receptacle formed therein and provided with a cavity formed in its concaved bearing surface, said cap having a passageway leading from the cavity through an extended portion of the cap, one wall of said passageway being inclined, a wedge shaped compressor member mounted in said passageway and having an inclined face adapted to bear against the inclined wall of the passageway and its other face parallel to the opposite wall of the passageway, a strip of ab-

sorbent material having one end positioned in said cavity and adapted to contact with a rotatable shaft and extending between said compressor member and the parallel walls of the passageway and leading into said oil cup, and a screw adjustably swiveled to the outer end of said member.

4. In combination with a shaft bearing cap provided with an oil receptacle and having an elongated cavity formed in the concaved bearing surface thereof, passageways leading from said cavity through extensions of the cap, a strip of absorbent material extending substantially the length of said cavity and having laterally projecting wings, one passing through each of said passageways and leading to the oil receptacle, an adjustable compressor member mounted in each of said passageways and adapted to regulate the capillary feed of oil through said strip, and a dust proof cap fitted over said oil receptacle.

5. In combination with a shaft bearing cap provided with an oil receptacle and having an elongated cavity formed in the concaved bearing surface thereof, passageways leading from said cavity through extensions of the cap, a strip of absorbent material extending substantially the length of said cavity and having laterally projecting wings, one passing through each of said passageways and leading to the oil receptacle, an adjustable compressor member mounted in each of said passageways and adapted to regulate the capillary feed of oil through said strip.

6. An adjustable oil feed for journals, comprising a shaft bearing cap having an oil receptacle formed therein and provided with a cavity formed in its concaved bearing surface and having a passageway leading therefrom to the oil cup, one of the walls of the passageway having corrugations, an adjustable wedge shaped compressor member movable within said passageway and having a face for coöperating with said corrugations to engage a strip of absorbent material, and a screw having a swiveled head connected to said compressor member.

7. An adjustable oil feed for journals comprising an oil receptacle having a passageway leading from the interior thereof through the bottom of the receptacle and provided with a cavity, a strip of absorbent material positioned in said passageway and extending from the cavity into the oil receptacle, one of the walls of the passageway being inclined, a wedge-shaped compressor member movable within the passageway and having a face coöperating with one of the faces of the passageway to engage said strip of absorbent material, the upper portion of said compressor member being laterally extended and transversely slotted, and a rotatable screw having a swiveled head engaging said slot, as set forth.

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

HOWARD GRIFFITH SHORTT.

Witnesses:

H. C. Howes,

F. P. Phillips.