

J. C. CHAPMAN & W. H. HOFFMAN.
Self-Oiling Journal-Boxes and Hangers.

No. 154,455.

Patented Aug. 25, 1874.

Fig. 1.

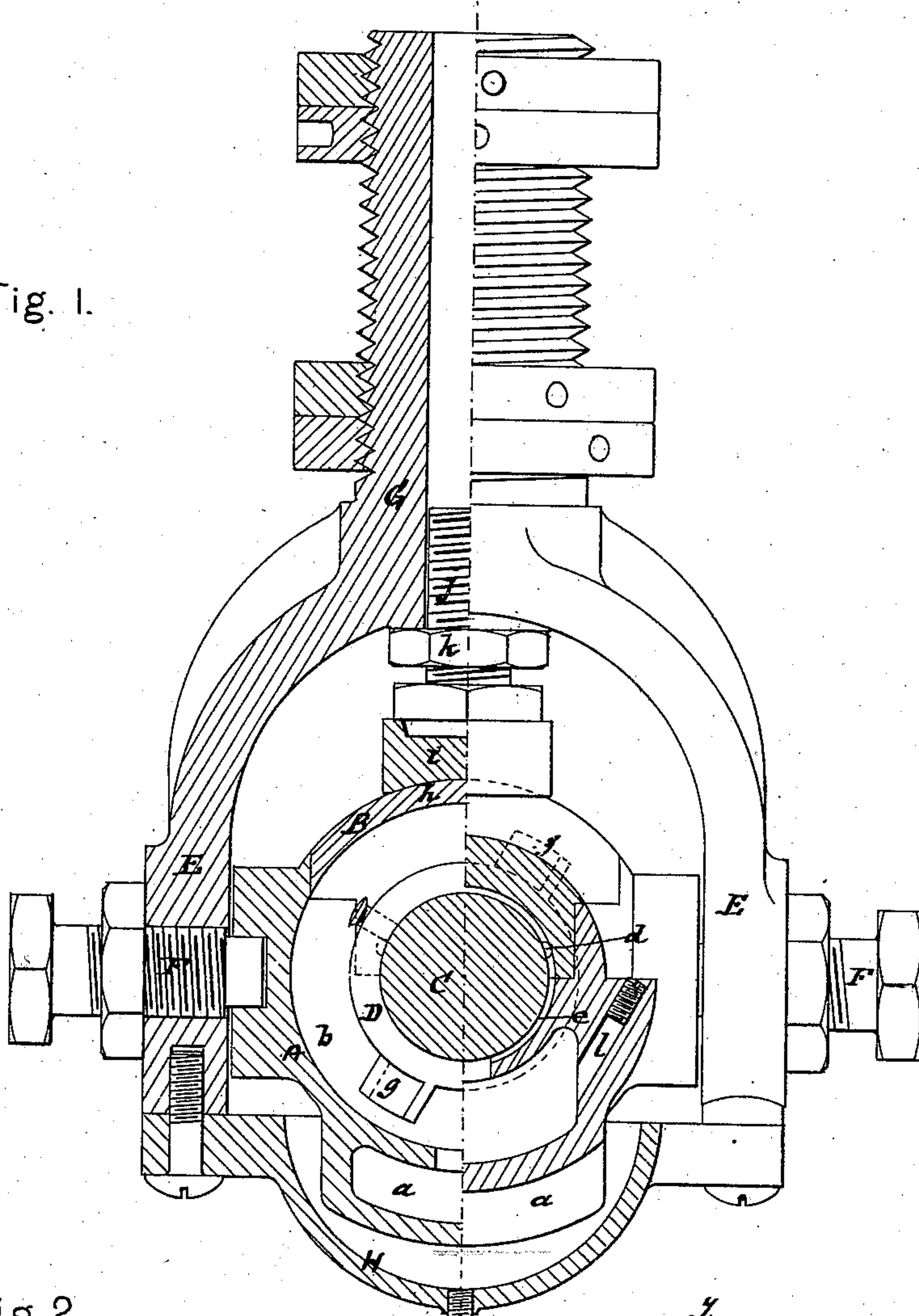
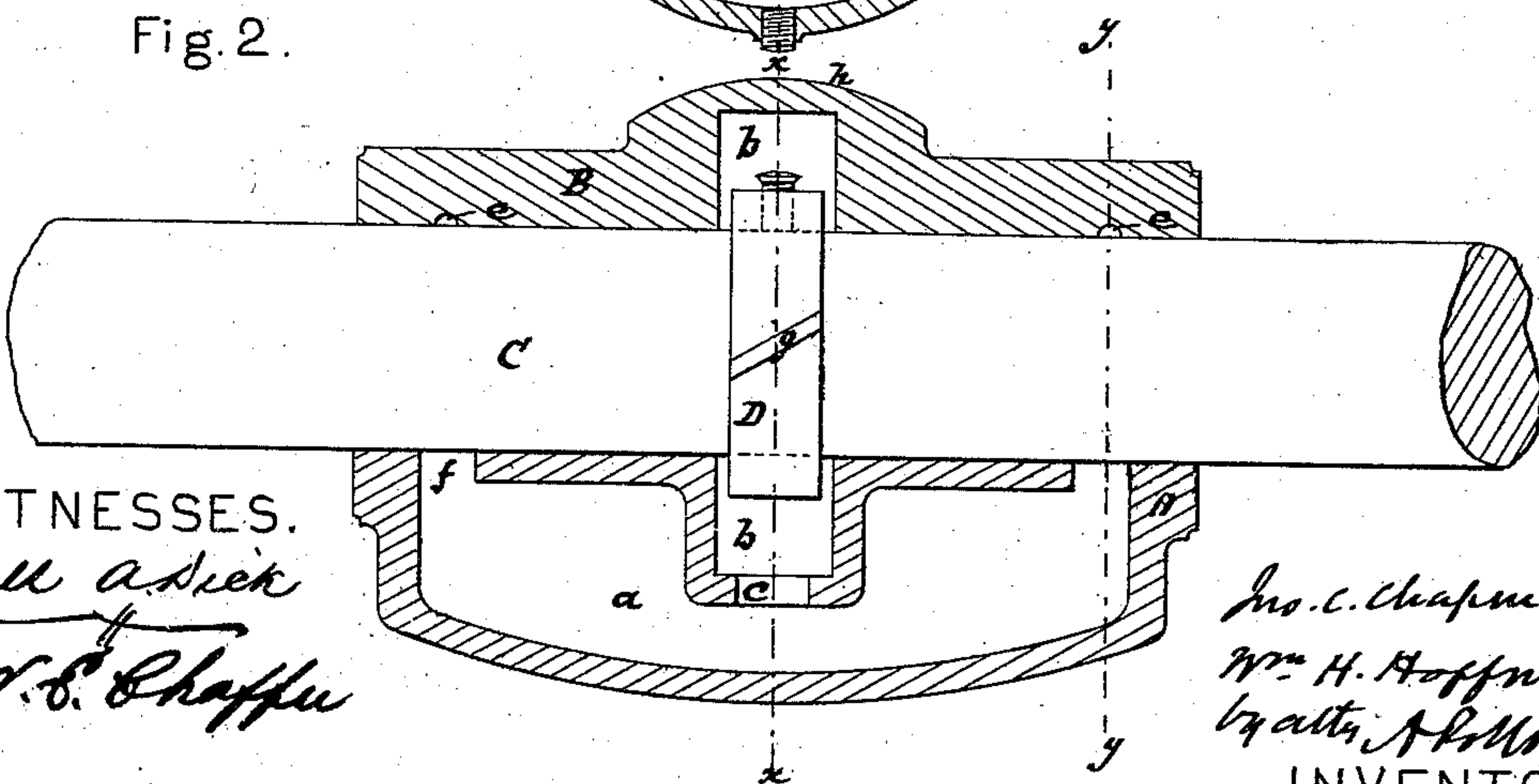


Fig. 2.



WITNESSES.

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FIG. 3.

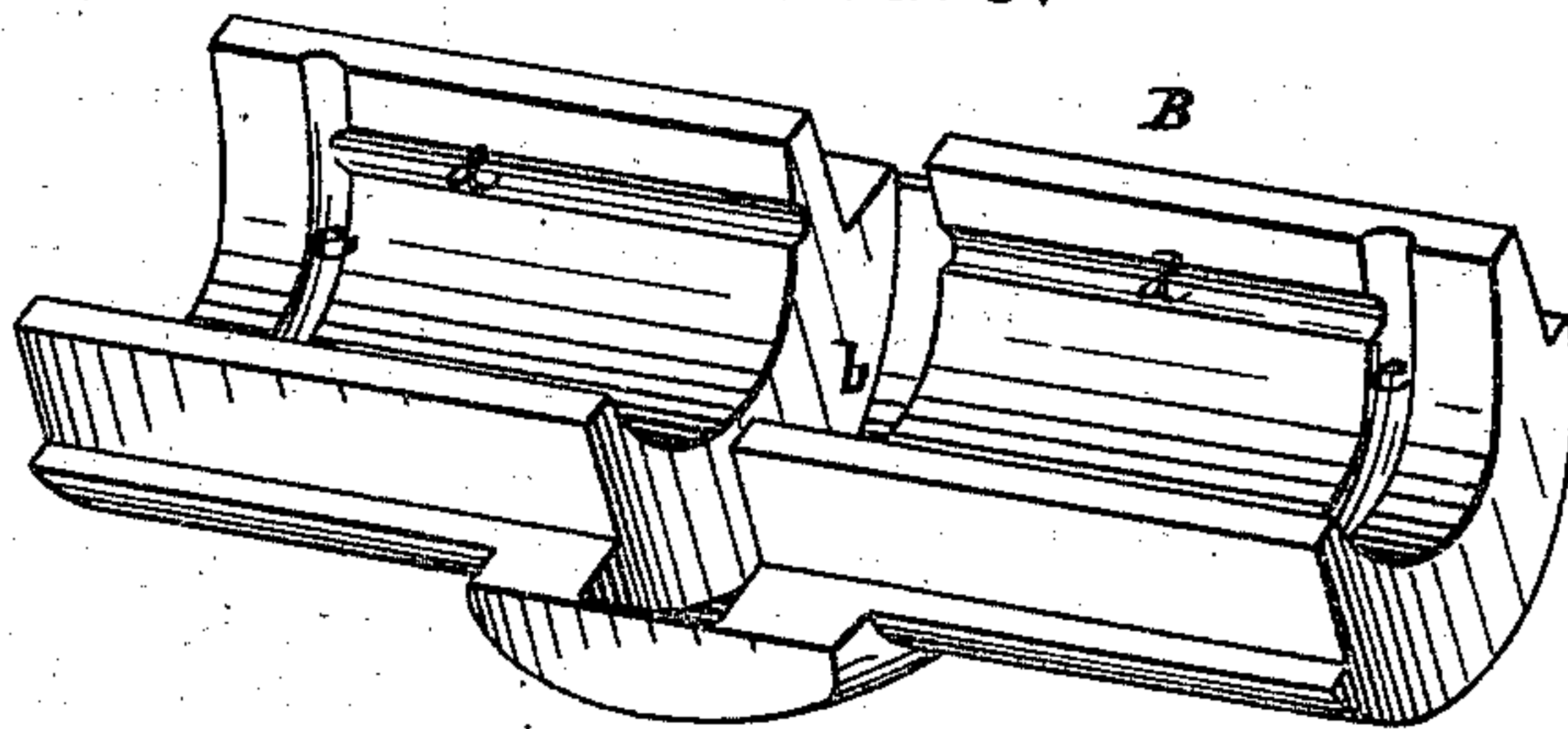
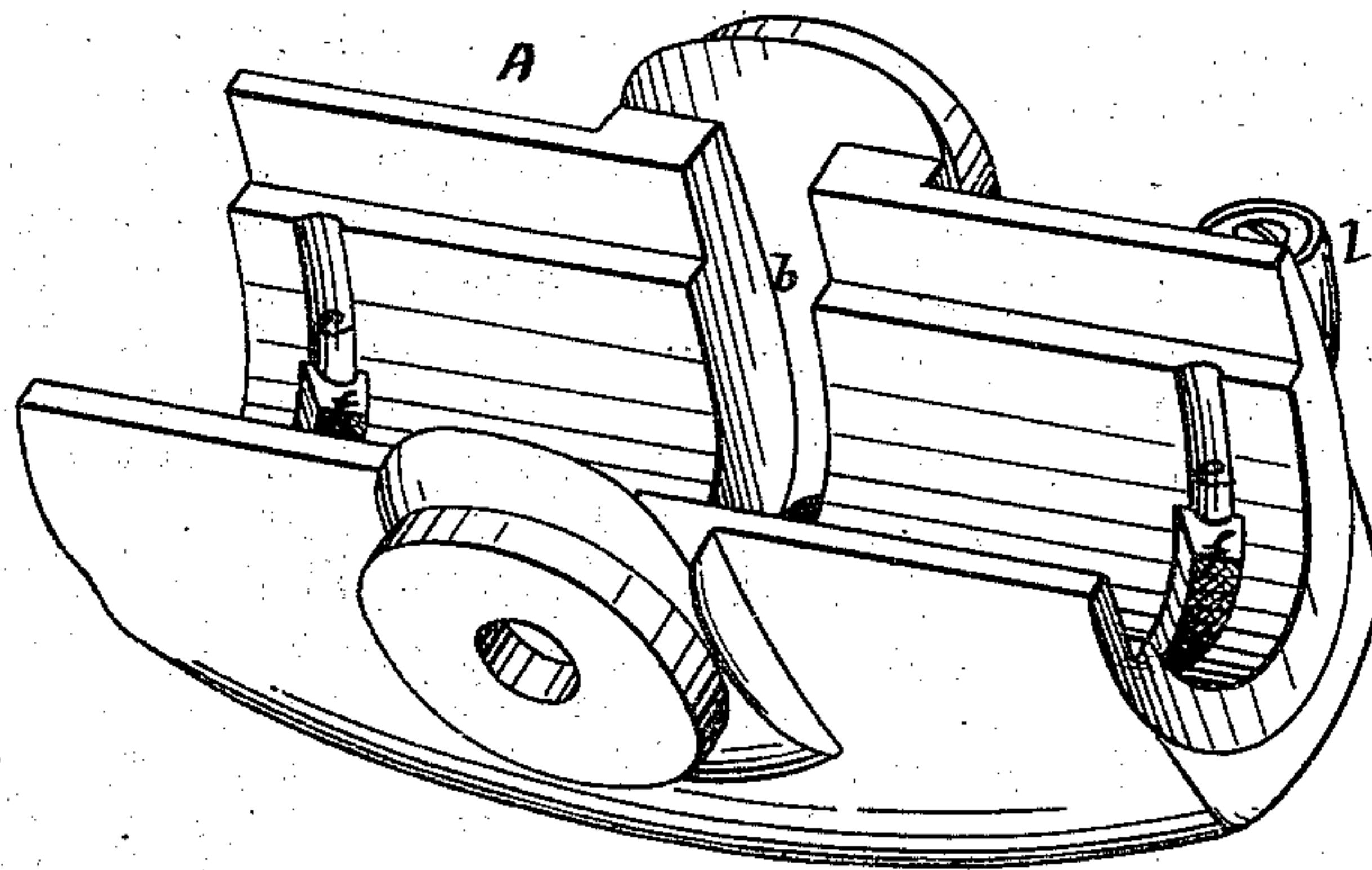


FIG. 4.



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UNITED STATES PATENT OFFICE.

JOHN C. CHAPMAN AND WILLIAM H. HOFFMAN, OF PASSAIC, NEW JERSEY,
ASSIGNORS TO NEW YORK STEAM-ENGINE COMPANY, OF NEW YORK.

IMPROVEMENT IN SELF-OILING JOURNAL-BOXES AND HANGERS.

Specification forming part of Letters Patent No. 154,455, dated August 25, 1874; application filed July 6, 1874.

To all whom it may concern:

Be it known that we, JOHN C. CHAPMAN and WILLIAM H. HOFFMAN, both of Passaic, New Jersey, have invented certain new and useful Improvements in Self-Oiling Journal-Boxes, and Hangers for the same, of which the following is a specification:

Our invention can best be explained and understood by referring to the accompanying drawings, in which—

Figure 1 is a transverse vertical section of a journal-box and hanger embodying our invention, the left half of the section being on line *x x*, Fig. 2, and the right half of the section being on line *y y*, Fig. 2. Fig. 2 is a longitudinal vertical central section of the journal-box removed from the hanger. Fig. 3 is a perspective view of the top, and Fig. 4 a like view of the body of the journal-box.

We provide the journal-box on its under side with an oil-tank, *a*, extending nearly the whole length of the box, and secured thereto by suitable means. In this instance it is cast in one piece with the box. About centrally in the body *A* and cap *B* of the box is formed an annular chamber or recess, *b*, transverse to the length of the box, and in which revolves the propeller blade or blades hereinafter described, said chamber communicating at bottom with the oil-tank through an opening, *c*. Leading from this central chamber are longitudinal grooves or channels *d*, which are formed, as shown, in the cap *B* of the box, or in both cap and body of the box, if preferred. These channels communicate with transverse end grooves or channels *e* in both cap and body of the box, located so that when the cap and body of the box are fitted together, the channel in the one will form a continuation of the corresponding channel of the other. The end channels *e* in the body of the box communicate with the oil-tank, at their lowest points, through openings *f*. The shaft *C*, that revolves in the box, is provided with a collar, *D*, fixed to the shaft and entering the central chamber *b*. From this collar project one or more inclined radial blades, *g*, which revolve in the chamber *b* and act to take up oil from the oil-tank through opening *c*, and to distribute it from chamber *b* to the interior of the box, through

channels *d* and *e*, the surplus of oil in the latter channels returning to the oil-tank through openings *f*. The blades, which we term propeller-blades, act to take up the oil from the tank, and to distribute it to each side of the propeller-chamber. The distribution of oil is regular and reliable, and is free from objections attending the ordinary methods, which usually contemplate the employment of either wicking or glass oil-feeders. The journal-box in this instance is hung between the arms of a hanger or yoke, *E*, by means of bearing studs or pins *F*, in the usual way. To hold the cap *B* in place, and yet allow necessary movements to the box, we form on top of the cap, at about its center, a convex protuberance, *h*, upon which bears a concave washer, *i*, acted on by the end of a screw-stem, *j*, that enters the hollow main stem *G* of the hanger, and is caused to exercise the desired pressure upon the cap *B* by means of a nut, *k*, that encircles the stem *j* and bears against the top of the hanger or yoke. The washer *i* may either be attached to the screw-stem, or, as seen in Fig. 1, it may, without direct union with the stem, be recessed on top to receive the lower end of the stem, which is shaped to fit such recess. Below the journal-box is the drip-cup *H*, which is secured, by bolting, casting, or otherwise, to the arms of the yoke or hanger, and serves to give considerable increase of strength to the latter. The oil-tank is filled through feed-passage *l*.

We are aware that blades have heretofore been used on shafts to take up oil from the oil-chamber in the bottom of the journal-box, but we know of none in which the blades revolve in a chamber distinct from the oil-chamber, as in ours. We are also aware that drip-cups have been applied to journal-boxes, but not, as in our case, so as to connect and brace the arms of the hanger.

Having described our invention and the manner in which the same is or may be carried into effect, what we claim, and desire to secure by Letters Patent, is—

1. The divided journal-box, constructed with oil-chamber *a*, central propeller-space *b*, longitudinal channels *d*, annular channels *e*, and openings *f c*, communicating respectively with channels *e* and space *c*, in combination with

the shaft C, having inclined propeller-blades *g*, all as set forth.

2. The divided journal-box, hung between the arms of the hanger or pivots F, and acted on by central pressure-screw *j* and concave washer *i*, as shown and set forth.

3. In combination with the hanger and journal-box hung on pivots, as described, the drip-cup H, connecting and made fast to the arms of the hanger, as and for the purposes set forth.

In testimony whereof we have hereunto signed our names this 3d day of June, A. D. 1874.

JOHN C. CHAPMAN.

WM. H. HOFFMAN.

Witnesses:

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JOHN DUFFUS.