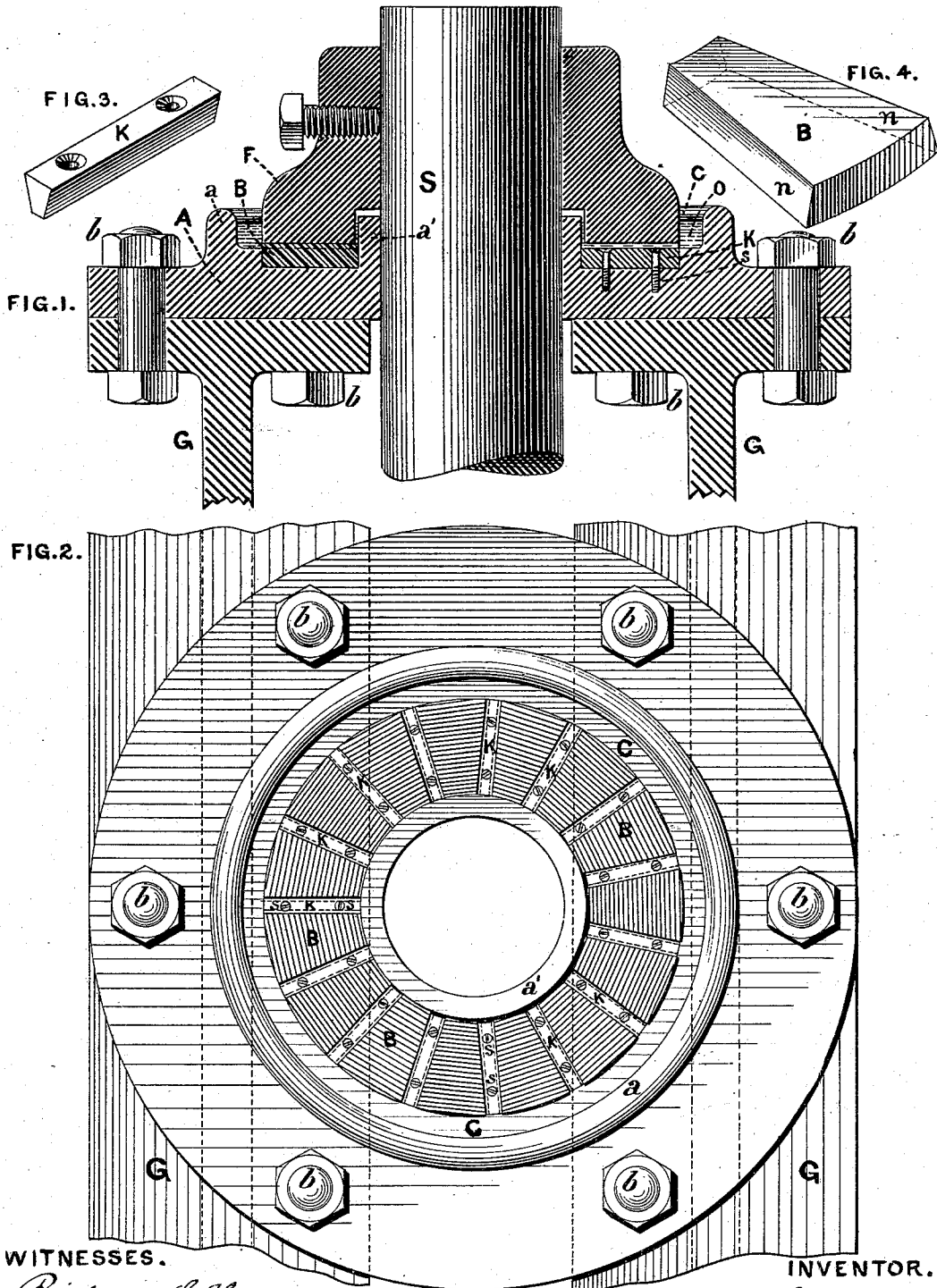


E. GEYELIN.
Suspension Bearing.

No. 229,039.

Patented June 22, 1880.



WITNESSES.

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EMILE GEYELIN, OF PHILADELPHIA, PENNSYLVANIA.

SUSPENSION-BEARING.

SPECIFICATION forming part of Letters Patent No. 229,039, dated June 22, 1880.

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To all whom it may concern:

Be it known that I, EMILE GEYELIN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Suspension-Bearings, of which the following is a specification, reference being had to the accompanying drawings, wherein—

Figure 1 is a vertical section through the center, showing the shaft and follower in position. Fig. 2 is a plan view of the lower bearing-surface, the adjuncts aforesaid being removed; and Figs. 3 and 4 are perspective views of the details of removable parts, which are combined to form the lower bearing-surface.

My improvements are specially adapted for use in connection with turbine wheels; but I do not desire to so limit their application, since they are of value for other analogous purposes.

The object of my invention is to reduce the friction of the bearing-surfaces to a minimum, and, since the nature of the material employed renders the bearing-surface liable to fracture, to localize such fracture and permit the ready renewal of the injured portion.

Upon heavy girders G G, or other solid foundation, the bed-plate A, of circular form, is secured by bolts *b*. An annular flange, *a*, is raised thereon, between which and an interior concentric flange, *a'*, the stepped channel or groove C is formed, its inner portion being deeper than the outer. Within this deep interior channel are placed the pieces B, which form the lower bearing-surface. These are constructed of heavy molded glass, in shape approximating to portions of sectors, and their sides *n n* are beveled, so that the bottom is wider than the top, the thickness being equal throughout, as shown in Fig. 4.

Inversely-beveled key-pieces K, of a thickness somewhat less than that of the glass sectors, are screwed firmly to the bed-plate between the pieces B, and hold the latter in position, while from their lesser thickness they avoid contact with the opposite bearing-surface and form a series of channels between the pieces B, as shown in Fig. 2, and on the right-hand side of Fig. 1, where the line of section passes through the center of one of the key-pieces K and its screws *s s*. These channels are intended to permit a flow of lubricants into the bearing, and I prefer to arrange the pieces K so that they diverge outwardly from the

lines of true radii in the direction of the wheel's motion. The amount of deviation required, however, is very slight, in an eighteen-inch bearing the outer end of the channel being about one-eighth of an inch from the radius which its inner end intersects. The object of this arrangement is to counteract the centrifugal force, which otherwise might drive the lubricants from the inner portions of the bearing.

The follower F, secured to the vertical shaft S, rests upon the glass pieces B, and oil being poured into the outer groove, *c*, formed by the step upon the flange K, flows into the channels between the pieces B and fills the interior annular space between the flange *a'* and the follower F, thoroughly lubricating the bearing-surfaces.

I am aware that it is not new to make bearings out of glass, crystal, or other similar hard and fragile material; but those hitherto constructed have been unsuitable for large surfaces and heavy weights, from the fact that they were in a single piece, and thus the entire bearing-surface was liable to be destroyed by the crushing or fracture at any point.

In my improvement the area of fracture can be limited as far as is possible, and by detaching a single key-piece the injured portion can be readily removed and a new piece substituted therefor.

I claim—

1. A suspension-bearing of glass constructed in removable sections, substantially as and for the purpose specified.

2. The combination, with the bed-plate, of the removable glass bearing-pieces B and detachable key-pieces K, substantially as specified and shown.

3. The combination of the channel C with the bearing-pieces and depressed intermediate key-pieces, whereby the flow of lubricants to the bearing-surface is permitted, substantially as specified and shown.

4. The combination, in a suspension-bearing, of the bearing-surface with the channels formed therein and divergent outwardly from the lines of true radii in the direction of motion, substantially as and for the purpose specified.

EMILE GEYELIN.

Witnesses:

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