

(No Model.)

2 Sheets—Sheet 1.

C. B. RICHARDS.
Bearing for Shafts.

No. 241,420.

Patented May 10, 1881.

FIG. 1.

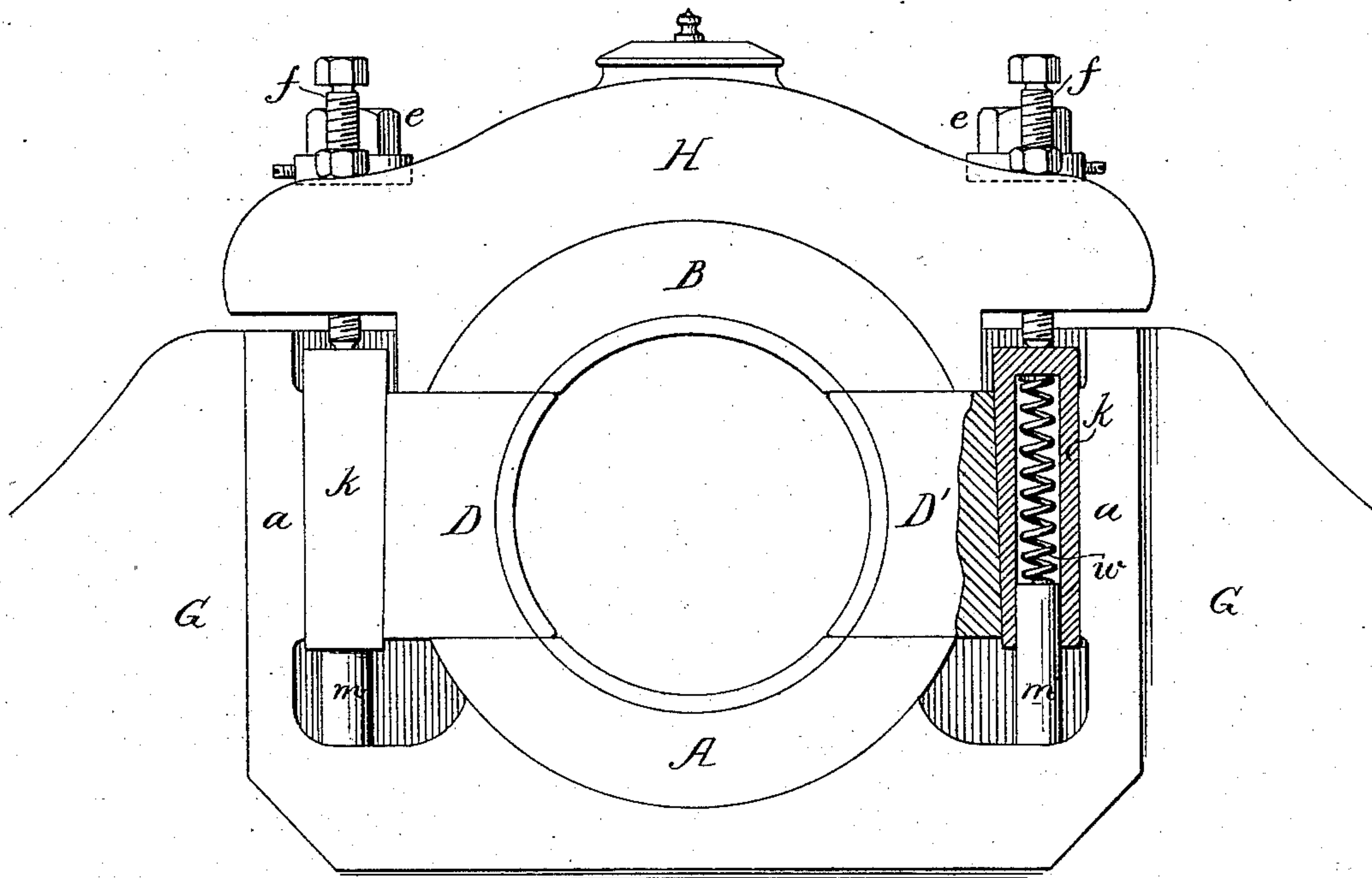
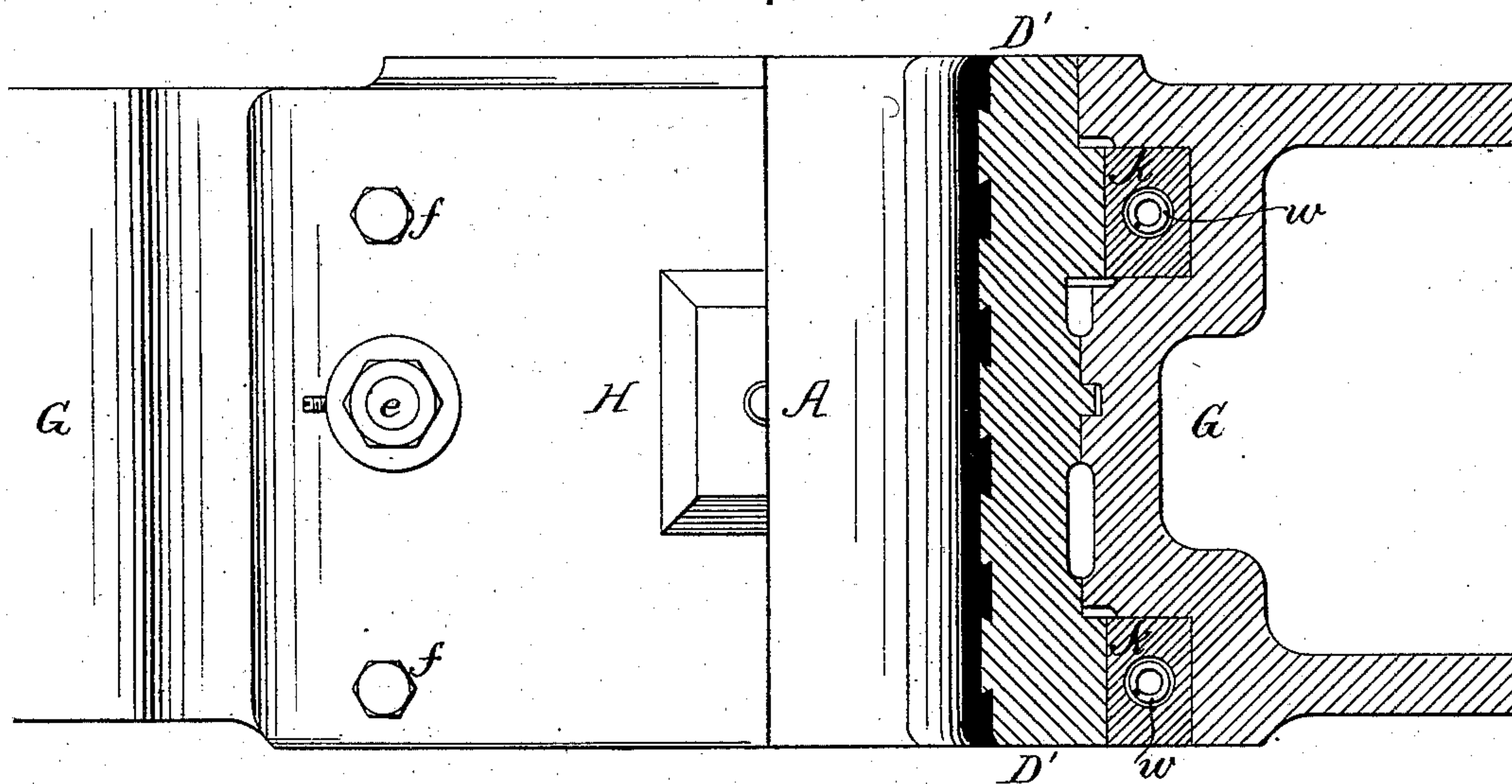


FIG. 2.



Witnesses:

James F. Tobin

Henry L. Fulenwider

Inventor:

Charles B. Richards

by his Attorneys,

Houson and Jones

(No Model.)

2 Sheets—Sheet 2.

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FIG. 3.

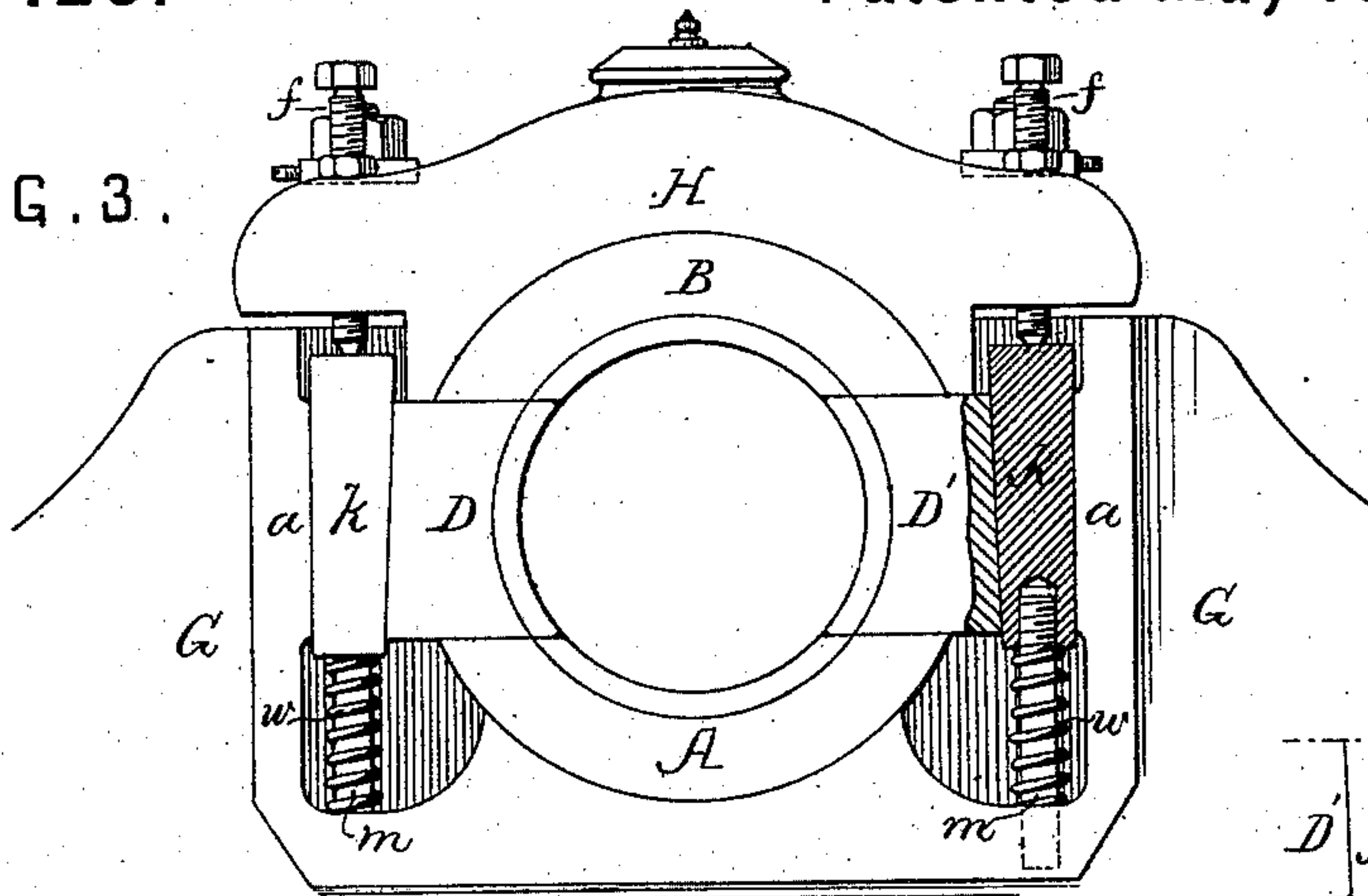


FIG. 4.

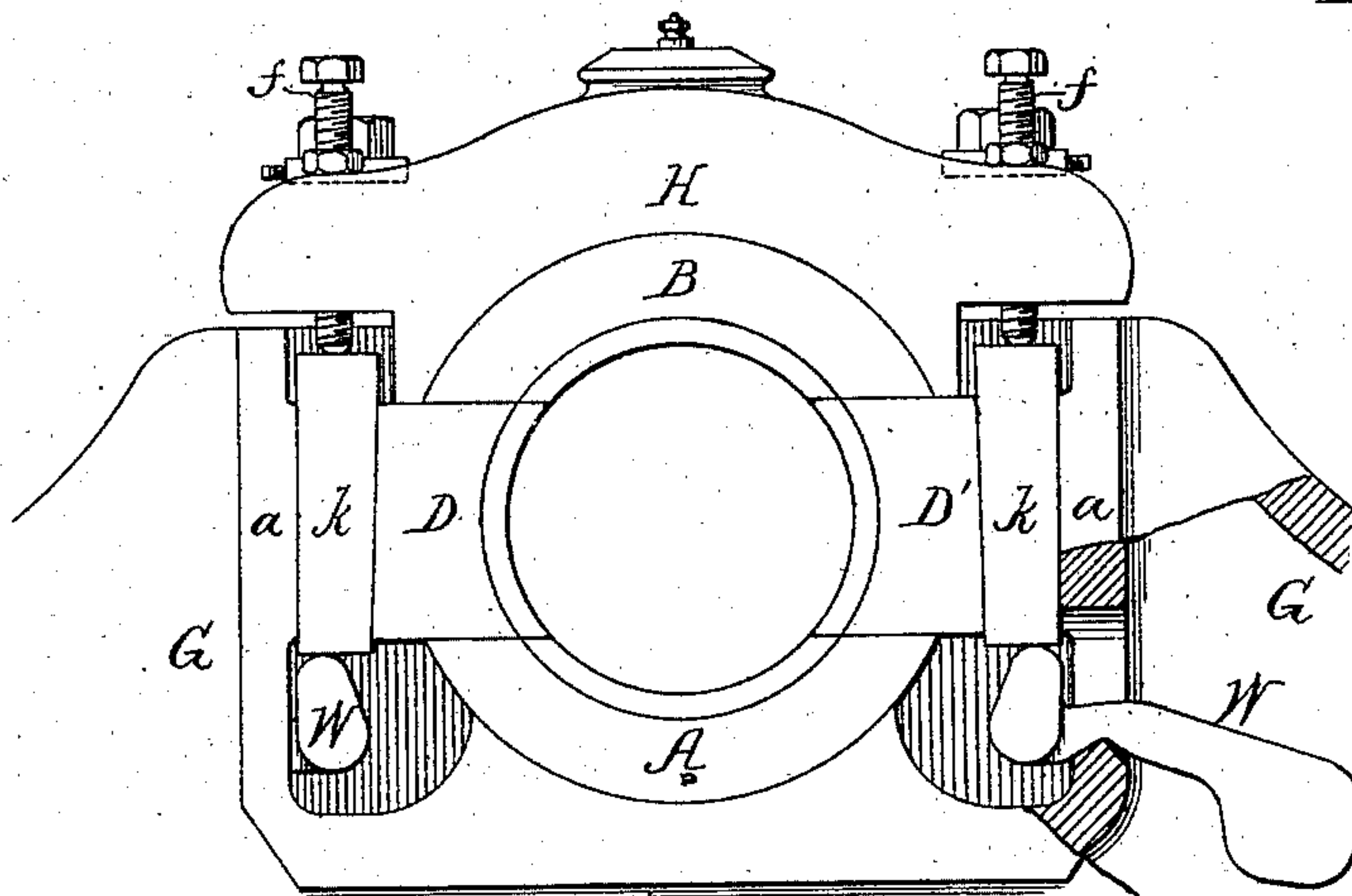
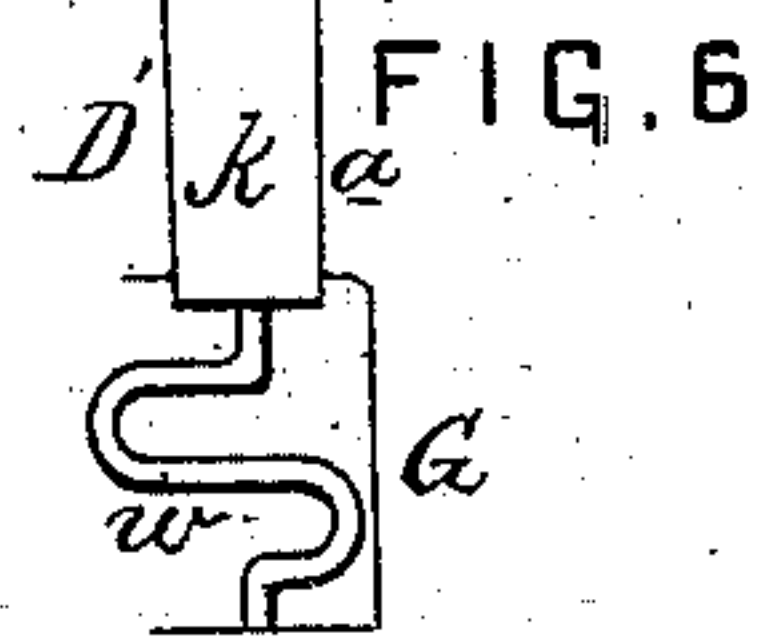
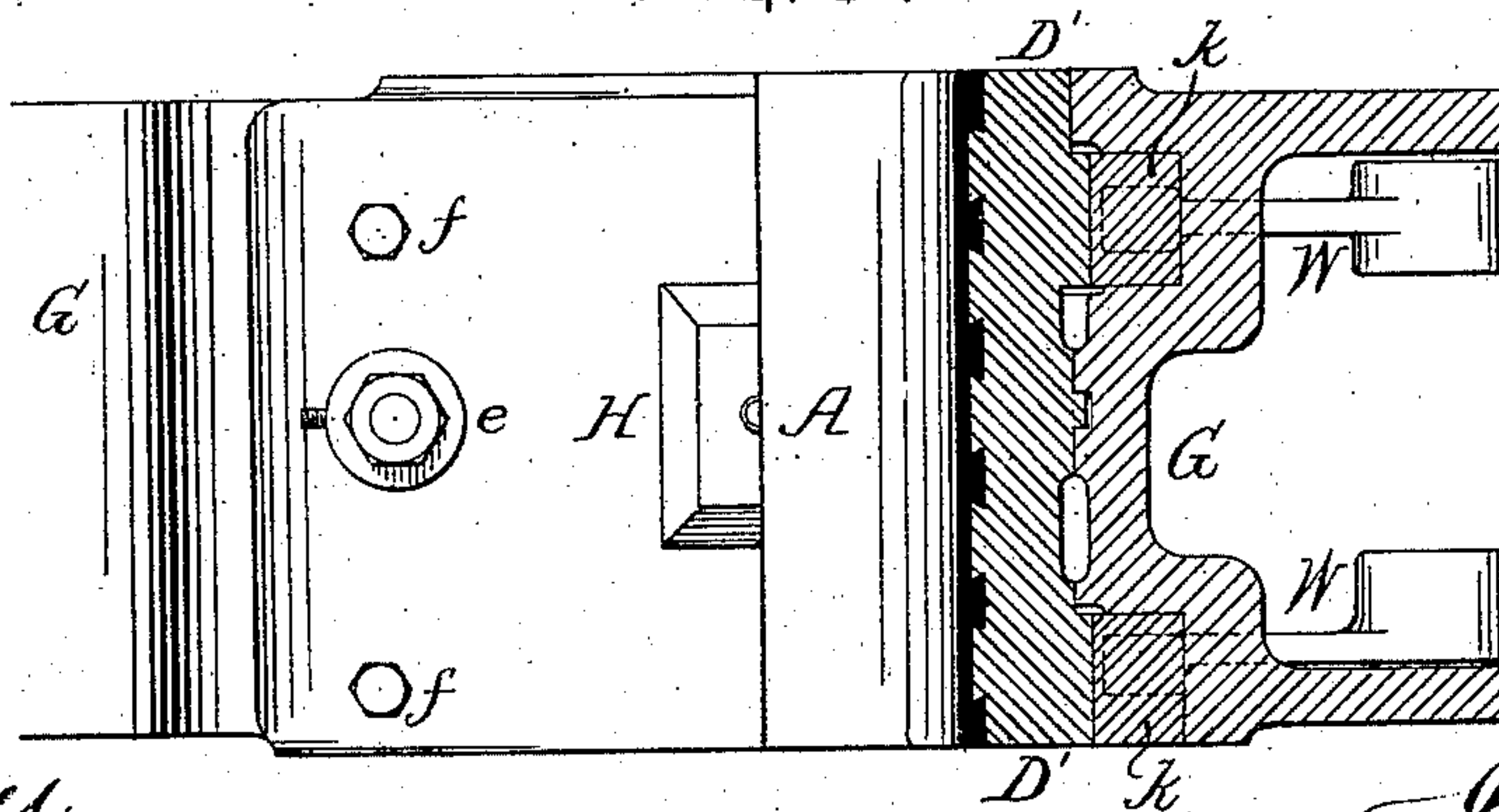


FIG. 5.



Witnesses:

James F. Tobin,

Henry L. Follenwider.

Inventor:

Charles B. Richards
by his Attorneys
Howison and Fox

UNITED STATES PATENT OFFICE.

CHARLES B. RICHARDS, OF PHILADELPHIA, PA., ASSIGNOR TO THE SOUTH-
WARK FOUNDRY AND MACHINE COMPANY, OF SAME PLACE.

BEARING FOR SHAFTS.

SPECIFICATION forming part of Letters Patent No. 241,420, dated May 10, 1881.

Application filed March 31, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. RICHARDS, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented an Improvement in Bearings for Shafts, of which the following is a specification.

My invention relates to an improvement in that class of shaft-bearings which are composed of three main parts or sections—namely, the lower or base section, the upper or cap section, and two opposite side sections which are made adjustable, so as to be set up to the shaft by means of taper keys; and the object of my invention is to prevent the self-tightening of these keys and the binding of the opposite side sections too hard against the shaft—an object attained in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1, Sheet 1, is a side view, partly in section, of my improved bearing; Fig. 2, a plan view, partly in section; Fig. 3, Sheet 2, a side view, partly in section, showing a modification of my invention; Figs. 4 and 5, views showing another modification, and Fig. 6 a view of a spring which may be used in carrying my invention into effect.

In the present instance my improved bearing, as illustrated in the drawings, is adapted to the crank-shaft of a horizontal engine, of which G represents a part of the base-plate constructed to receive the bearing; but the invention may be adopted in the construction of any plumber-blocks or hangers in which bearings with adjustable side sections are desirable.

In Figs. 1 and 2, A is the lower or base section of the bearing, B the upper or cap section, and D D' the opposite side sections. The lower section, A, is fitted snugly in the bottom of a recess formed in the base-plate G. The upper section is fitted to the cap H, which is confined to its place by bolts *e e*, and the opposite side sections fit snugly, but so as to be adjustable horizontally, between the upper and lower sections, the adjustment being effected by means of taper keys *k k* contained in recesses formed in the base-plate, there being in

the present instance two keys for the adjustment of each side section of the bearing, as shown in Fig. 2. For depressing each key there is a set-screw, *f*, passing through the cap H, and provided with a jam-nut, and each key is chambered for the reception of a spiral spring, *w*, confined vertically between the end of the chamber in the key and a stationary pin, *m*, which fits freely in the chamber, and on which the key can slide, the tendency of the spring being to force the key upward and maintain its upper end in contact with the lower end of the set-screw.

In a horizontal steam-engine the crank-shaft is necessarily caused to bear with great force alternately against each of the opposite side sections of the bearing; hence the taper keys and set-screws by means of which these sections may from time to time be set up; but in using simple taper keys they have a self-tightening tendency under the influence of the jars to which the bearings are subjected, especially the bearings of rapidly-rotating crank-shafts of high-speed engines, and the consequence of this self-depression of the keys is the occasional binding of the side sections of the bearings too tightly against the shaft. The springs *w* are for the purpose of counteracting this self-tightening tendency of the keys, the springs having rigidity enough to maintain the keys in contact with the screws and elasticity enough to yield when the tightening of the keys by manipulating the said screws becomes necessary.

In Fig. 3, Sheet 2, each spring, instead of being contained within a key, surrounds a fixed pin on which the key can slide, and intervenes between the lower edge of the key and the bottom of the recess in the bed-plate.

Other arrangements of springs will readily suggest themselves. A bent spring of flat steel, for instance, as shown in Fig. 6, may be adopted, or counter-weights may be used in place of springs, an example of this kind of counteracting device being shown in Figs. 4 and 5, in which a weighted lever is loosely pivoted to the base-plate below each key, against the under side of which the short arm of the lever bears.

I claim as my invention—

The combination, in a steam-engine frame,
plumber-block, or hanger, of the side sections,
D D', of a bearing, taper keys, means for ad-
5 justing the same, and devices, substantially as
described, for counteracting the self-tighten-
ing tendency of the said keys.

In testimony whereof I have signed my name
to this specification in the presence of two sub-
scribing witnesses.

CHARLES B. RICHARDS.

Witnesses:

JAMES F. TOBIN,
HARRY SMITH.