

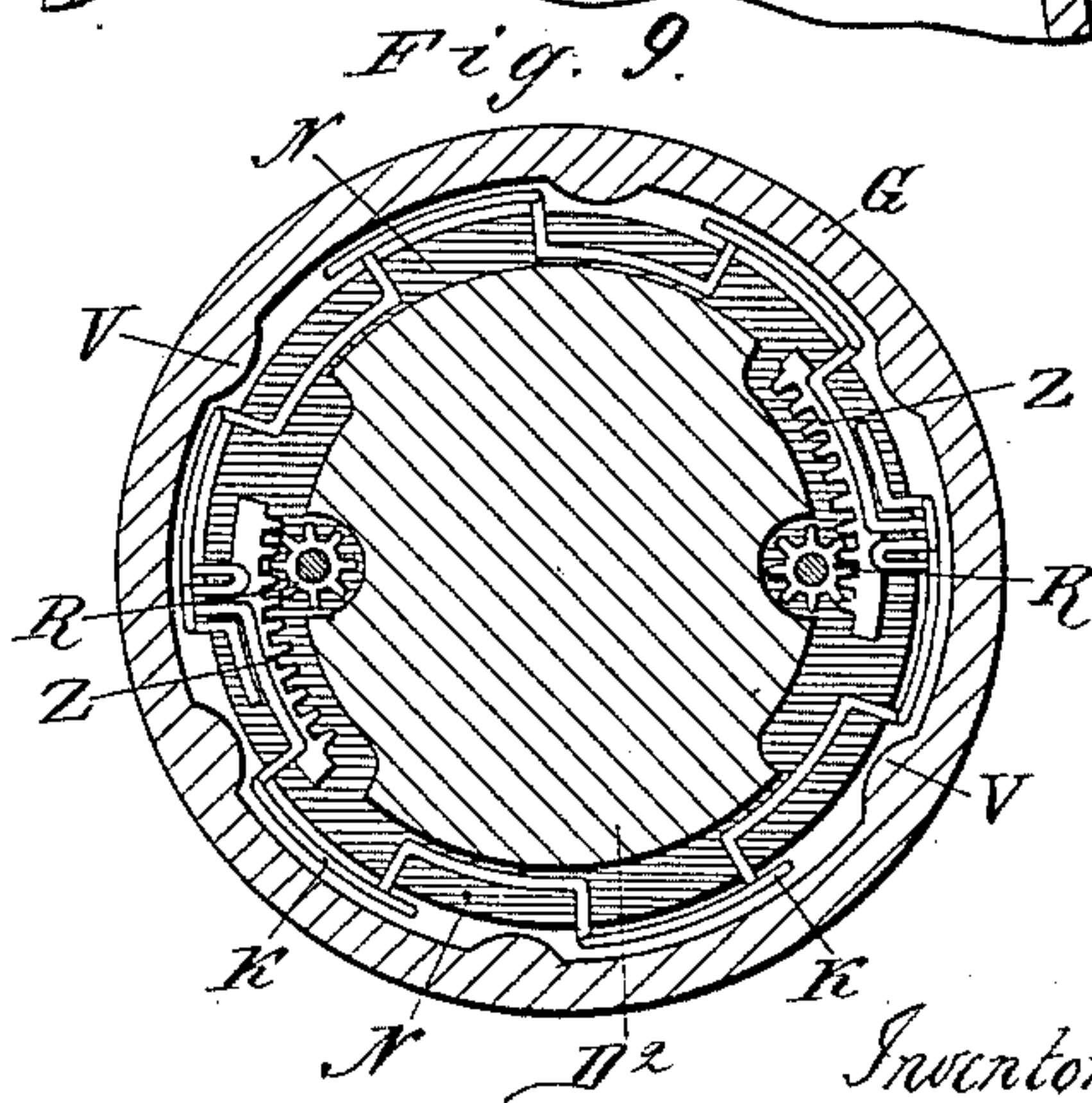
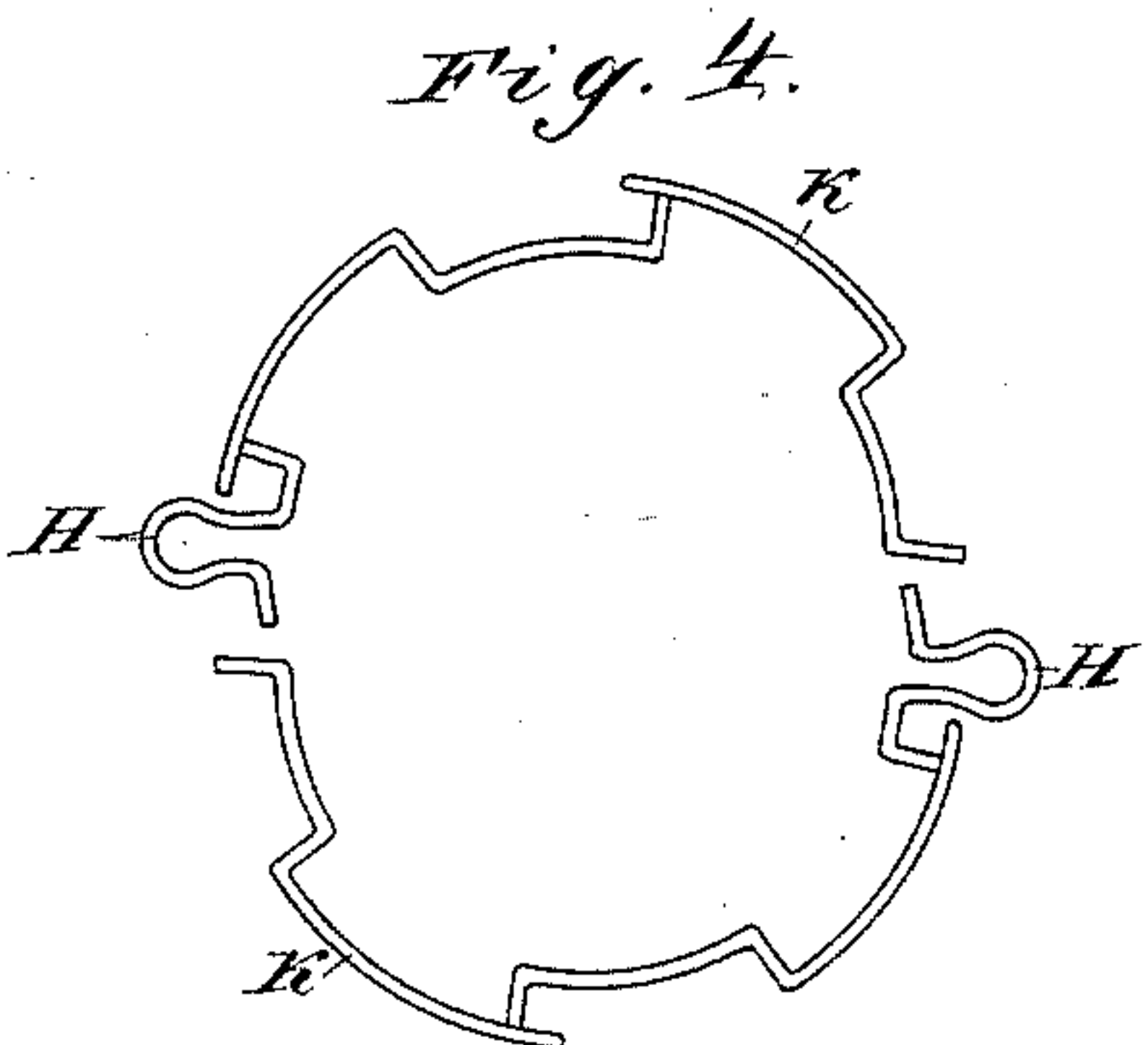
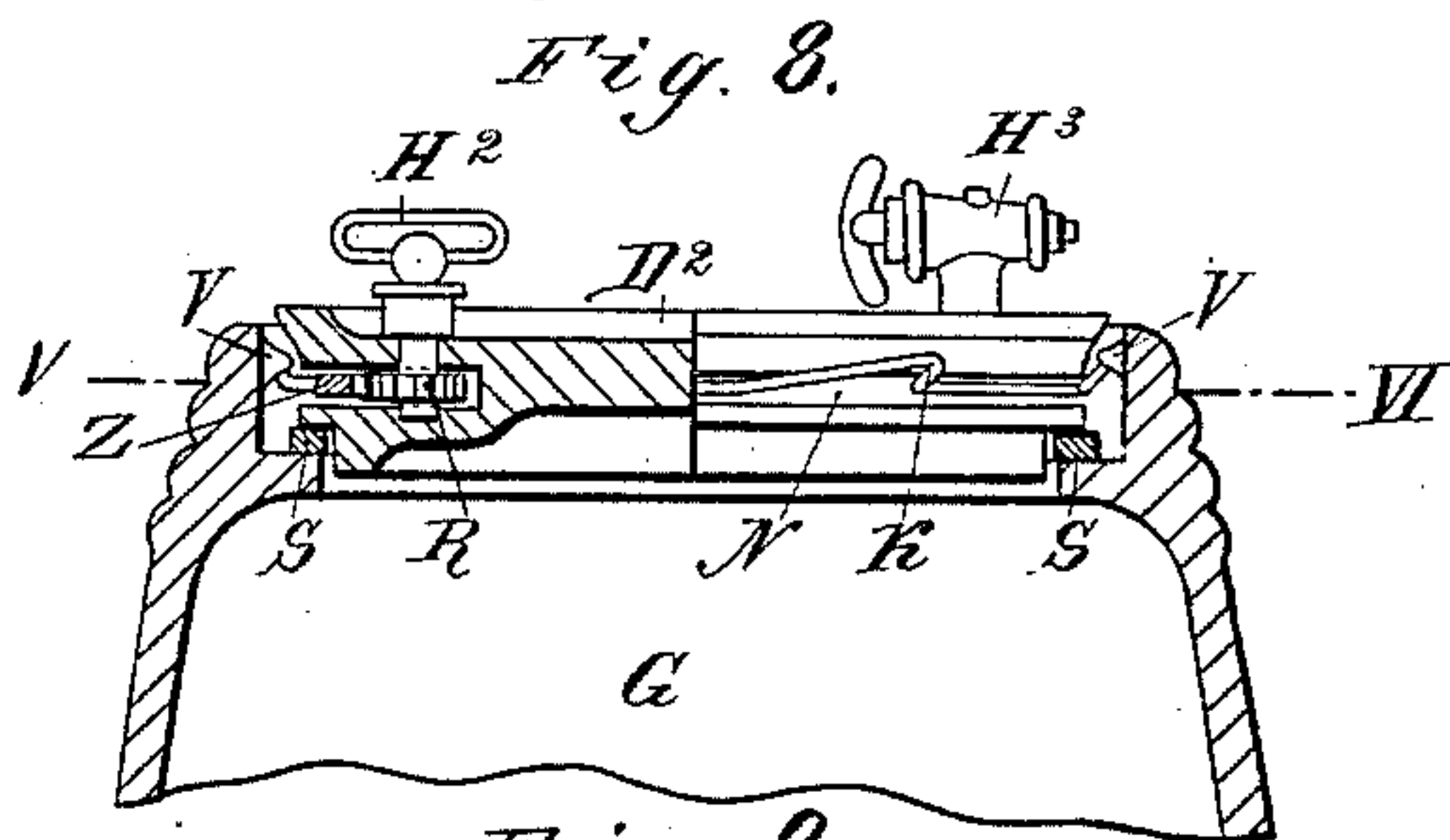
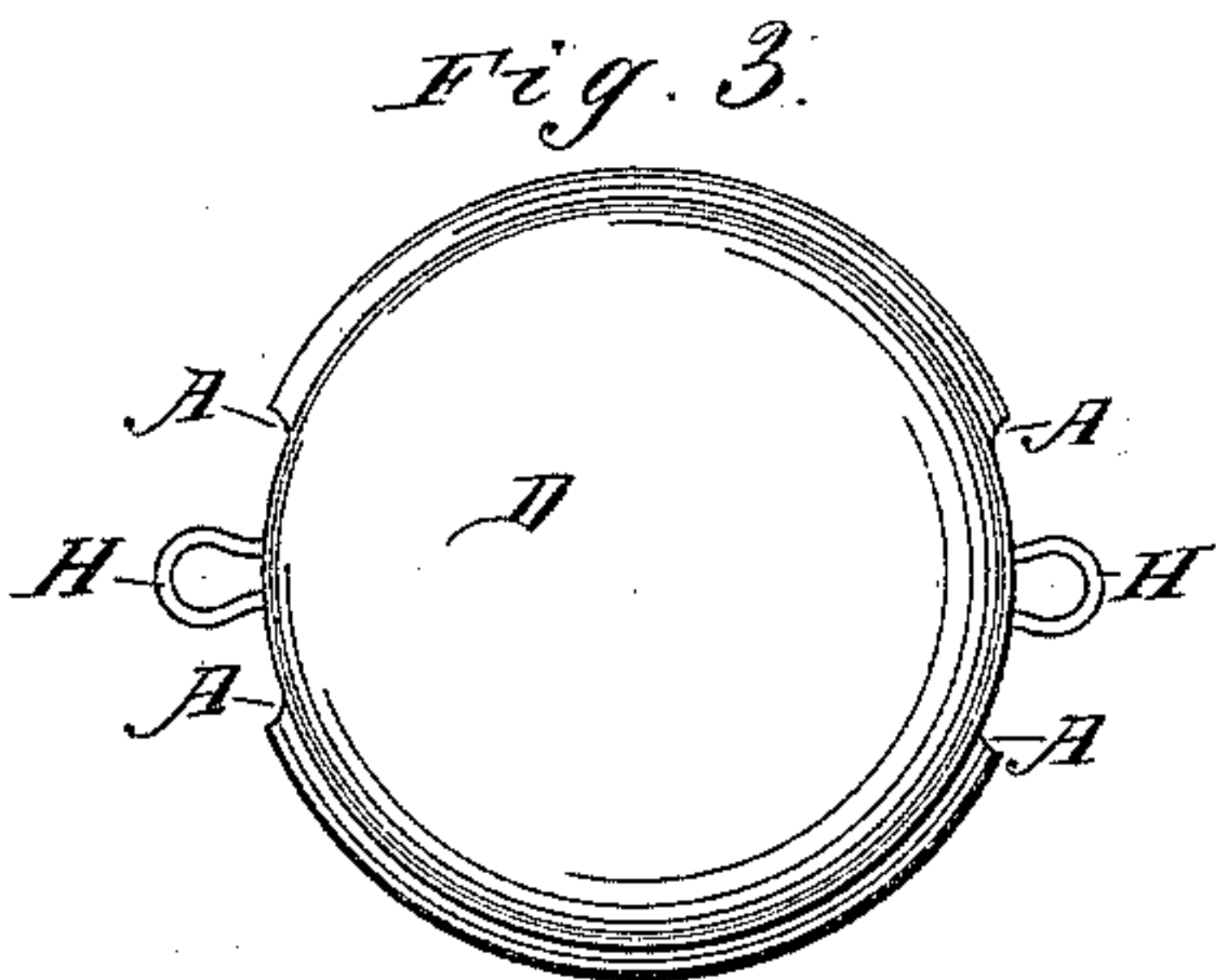
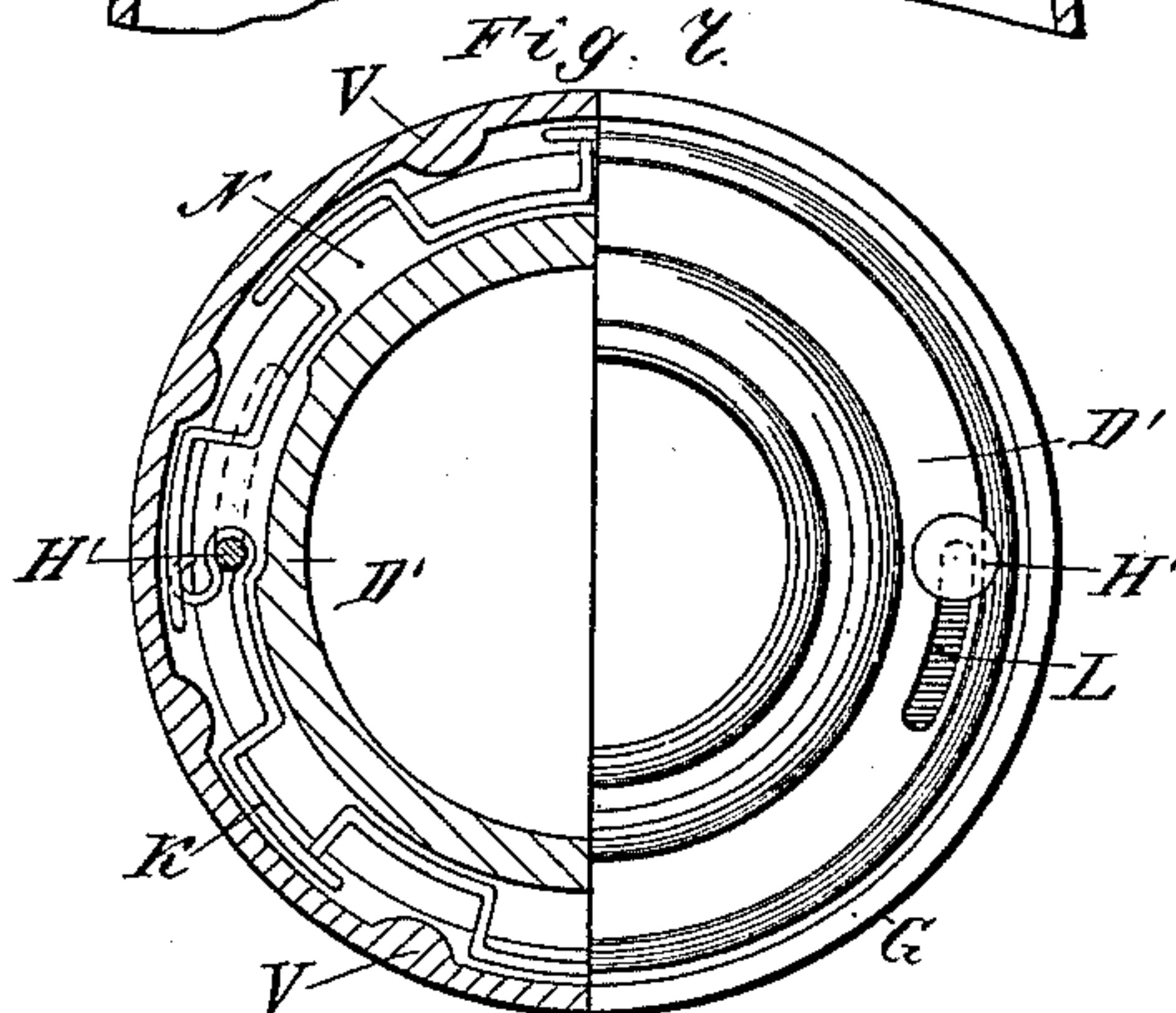
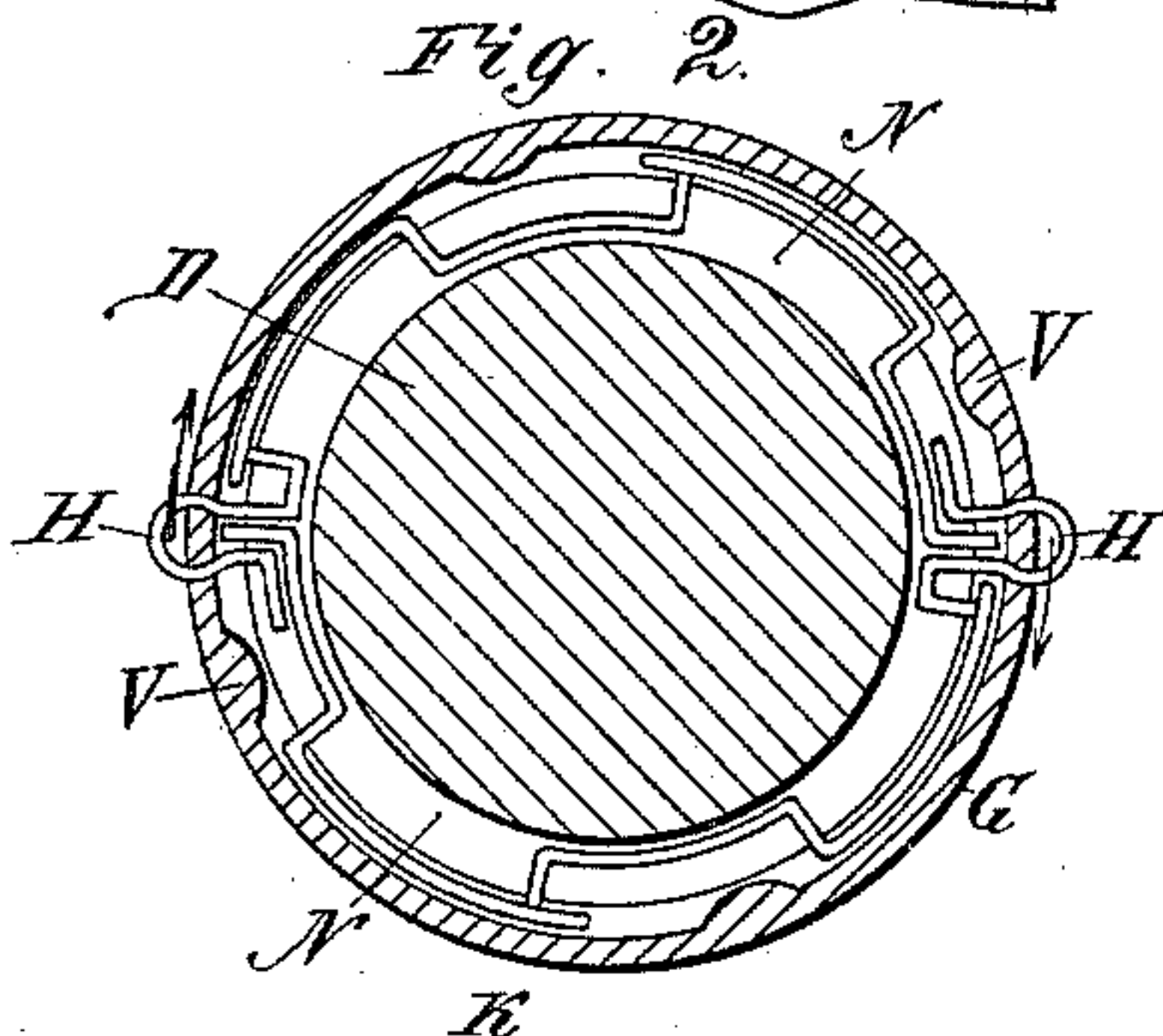
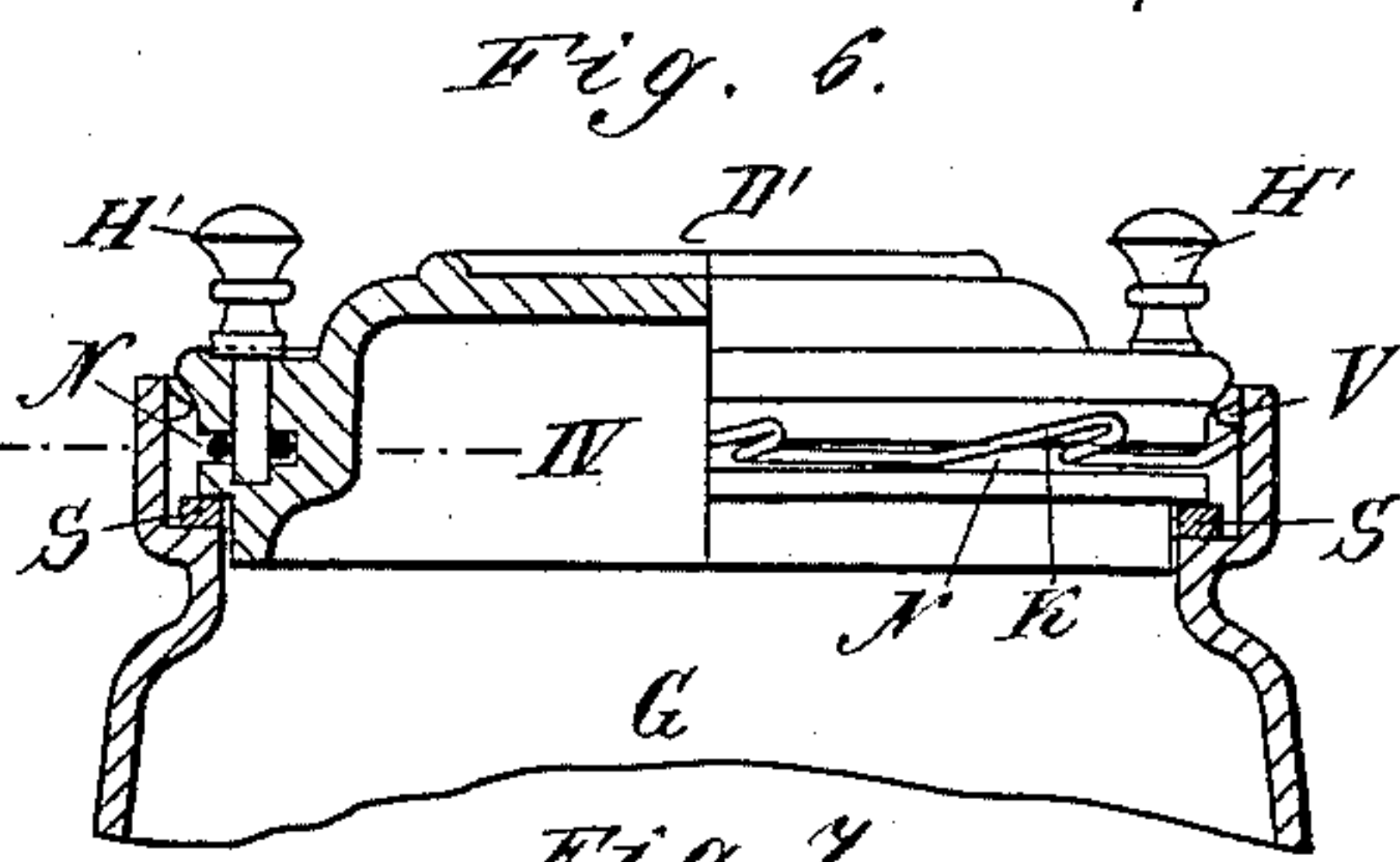
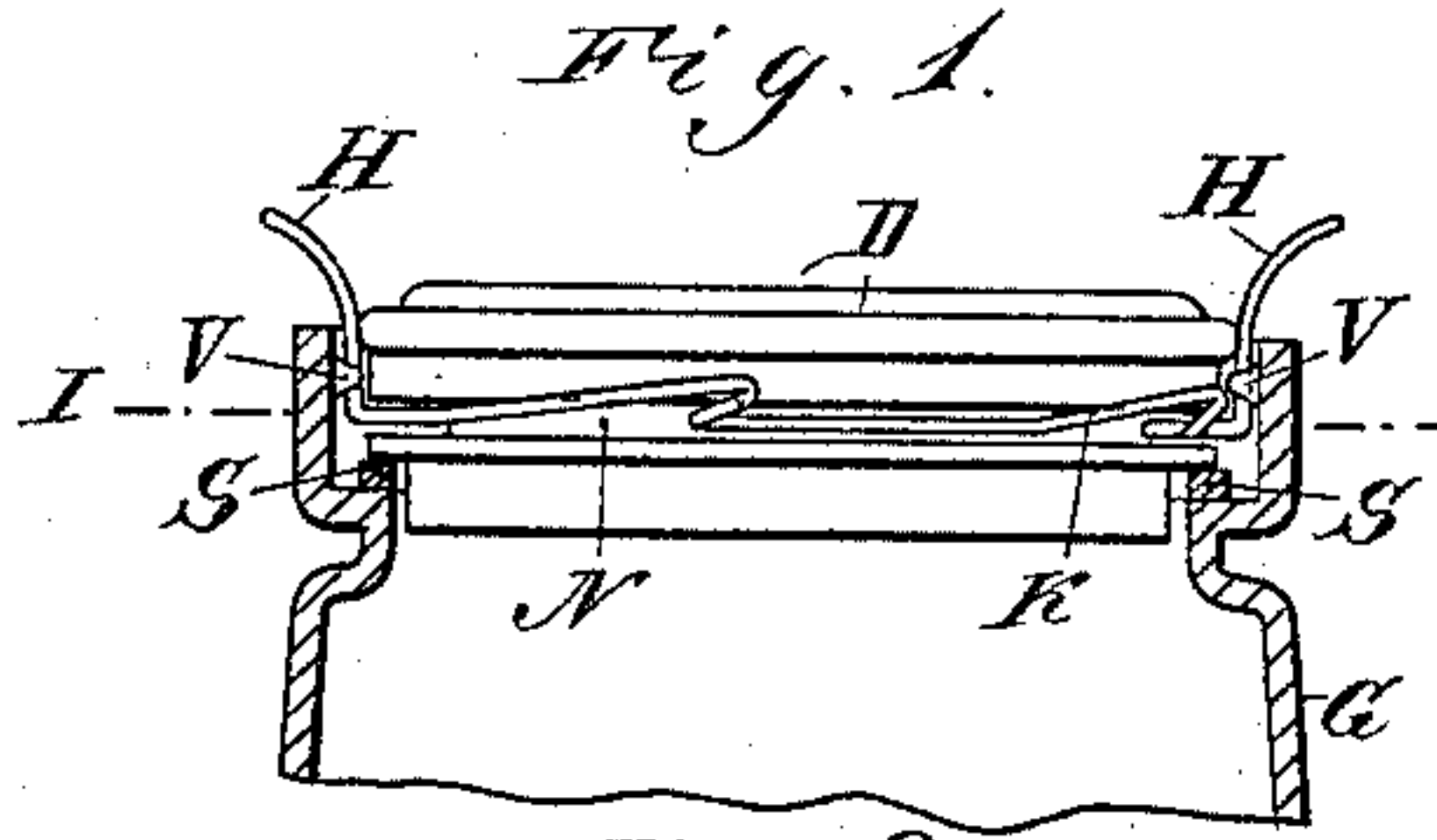
(No Model.)

2 Sheets—Sheet 1.

C. MARKWORTH.  
COVER FASTENER.

No. 442,233.

Patented Dec. 9, 1890.



Witnesses

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Fig. 10.

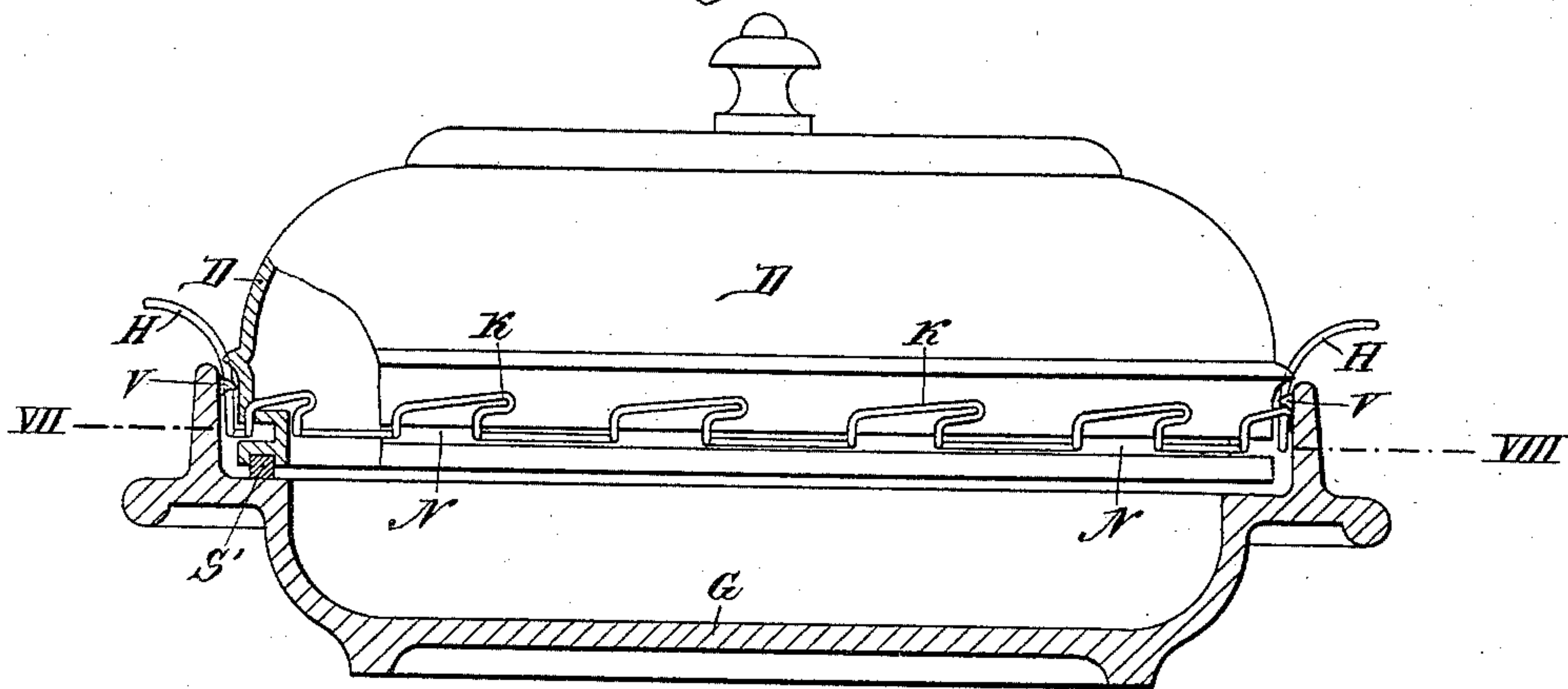


Fig. 11.

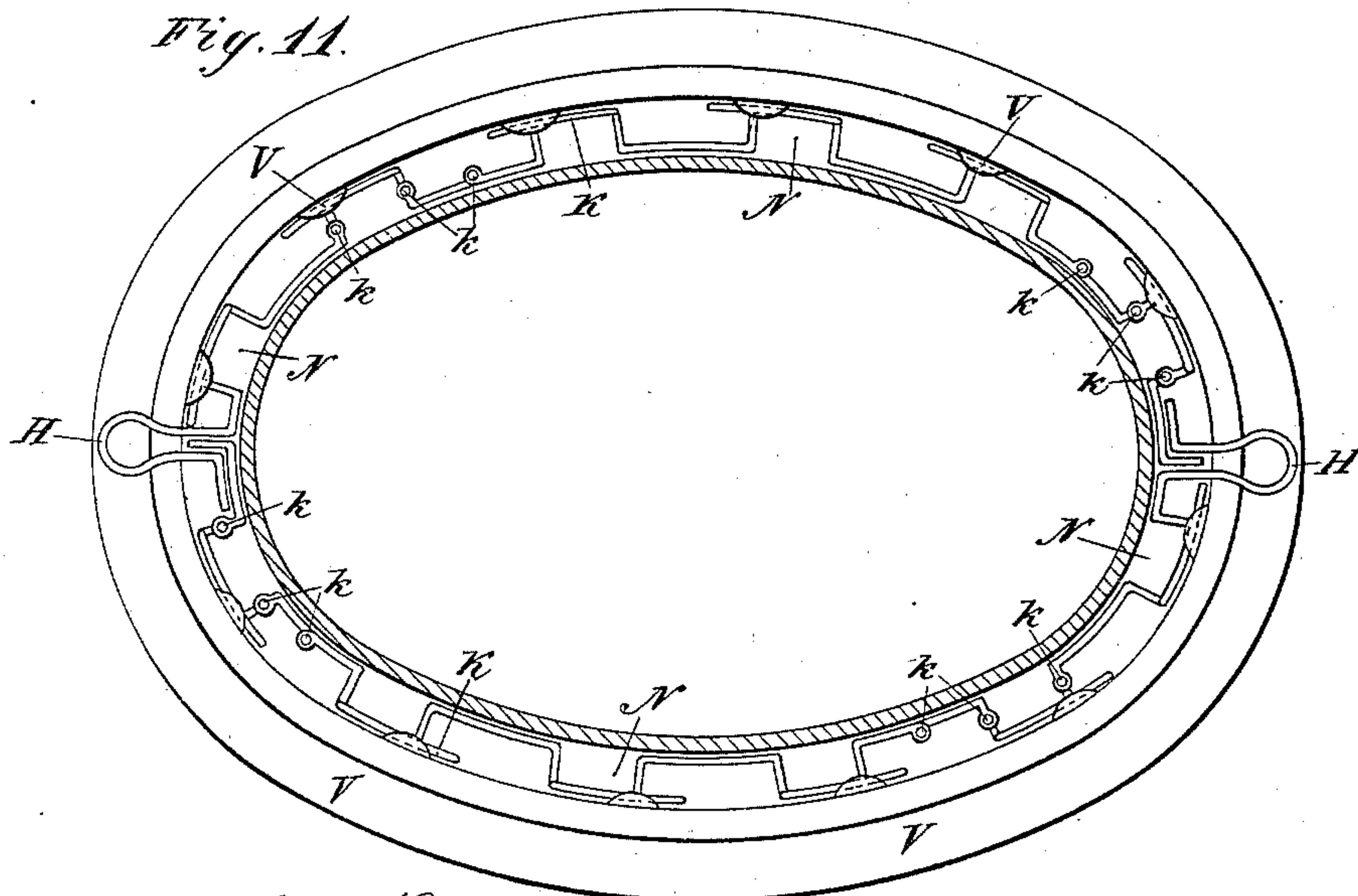


Fig. 12.

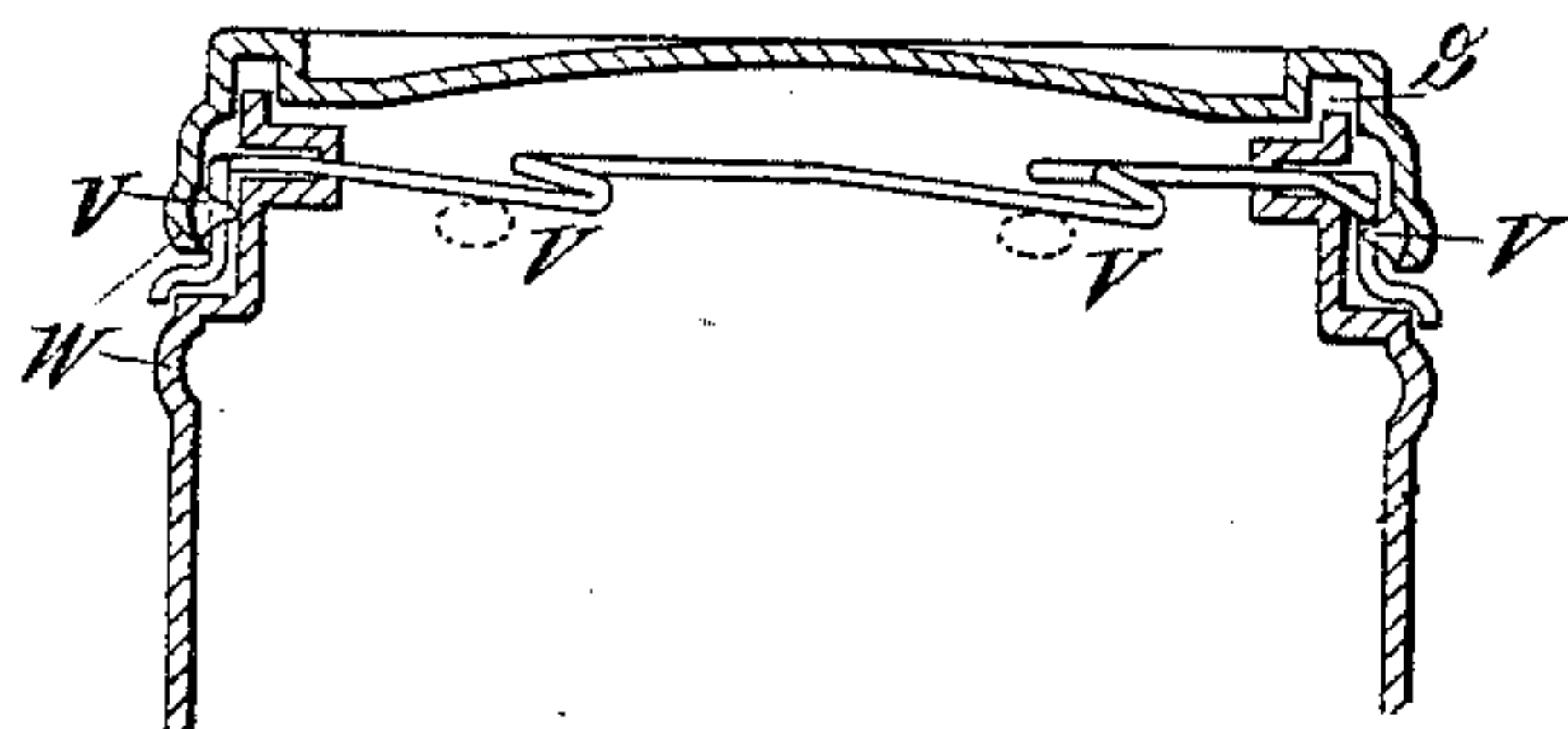


Fig. 13.

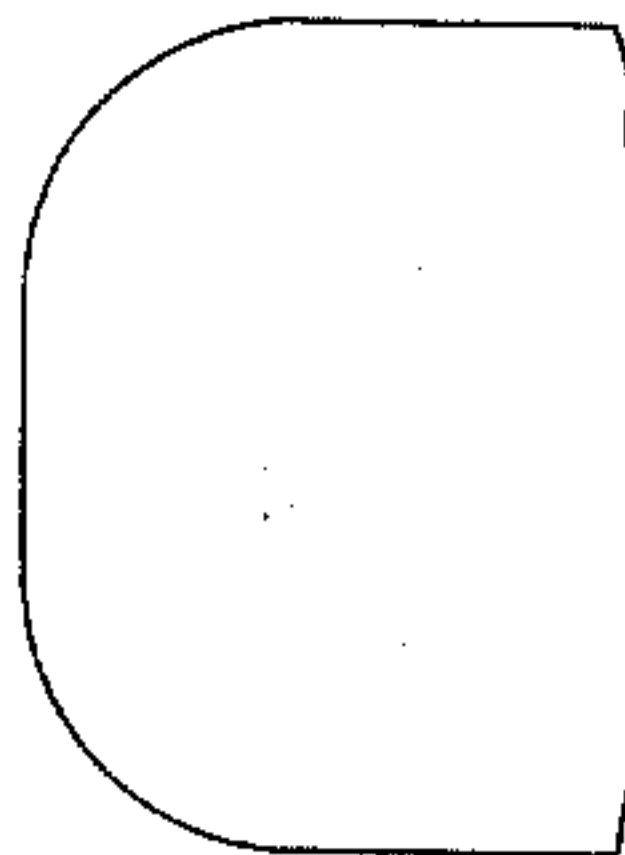
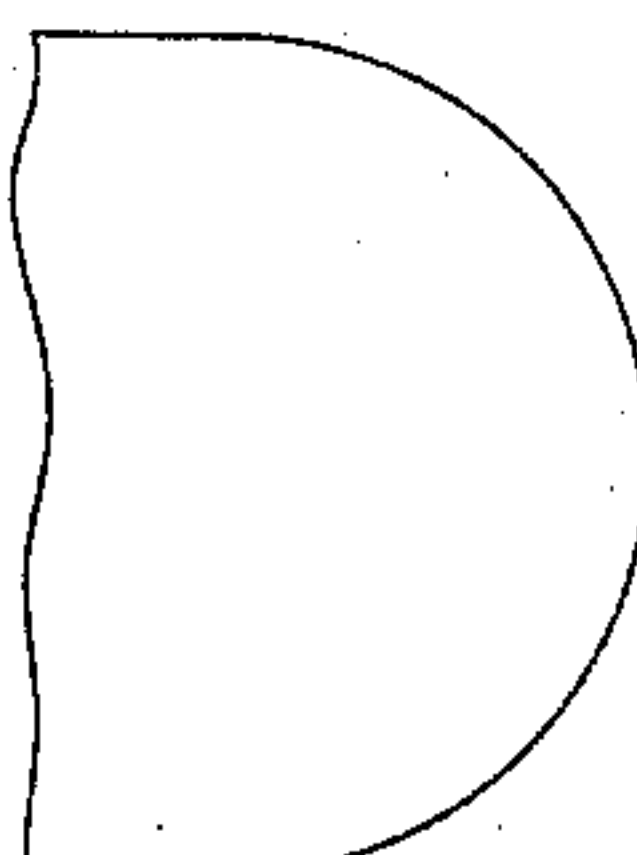


Fig. 14.



Witnesses

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# UNITED STATES PATENT OFFICE.

CARL MARKWORTH, OF PLAUE, NEAR DRESDEN, GERMANY.

## COVER-FASTENER.

SPECIFICATION forming part of Letters Patent No. 442,233, dated December 9, 1890.

Application filed April 29, 1889. Serial No. 309,133. (No model.) Patented in England January 28, 1889, No. 1,513; in Switzerland February 5, 1889, No. 522, and in Italy March 7, 1889, No. 24,882/418.

*To all whom it may concern:*

Be it known that I, CARL MARKWORTH, a subject of the Emperor of Germany, residing at Plauen, near Dresden, in Germany, have invented a certain new and useful Improvement in Cover-Fasteners, (for which I have obtained Letters Patent in England, No. 1,513, dated January 28, 1889; in Italy, No. 24,882/418, dated March 7, 1889, and in Switzerland, No. 522, dated February 5, 1889;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of stopper or cover fastening for bottles, jars, and the like in which a wedge-shaped body or bodies is or are adapted to be moved in relation to certain flanges or projections on the stopper and on the neck of the bottle, jar, or the like, for holding the bottle, jar, or the like firmly closed.

An object of the invention is to make an improved wedge-shaped fastener which shall be cheap and efficient in action.

A further object is to enable such a fastener to be revoluble on the stopper without being a separate piece therefrom—that is to say, to make the stopper so that the revoluble fastener shall in practice never be taken off or detached, and so not liable to be lost or wrongly applied.

A further object which is attained by the construction of the revoluble fastener is to make such a fastener which may be used on a body not truly round or by varying the construction slightly to adapt the fastener for the closing of stoppers or covers of oval or other form not comprising sharp angles—that is to say, to render the revoluble fastener more or less elastic to conform to the shape of the stopper or cover.

Reference being made to the accompanying drawings, Figure 1 is a sectional view of a jar and stopper with the improved fastening. Fig. 2 is a horizontal section on line I II, Fig. 1. Fig. 3 is a plan view of the stopper; Fig. 4, a view of the fastener removed and detached. Fig. 5 is an elevation of part thereof. Figs. 6, 7, 8, and 9 illustrate certain modifications

in the means for moving the fastening. Figs. 10 and 11 show such a fastener as applied to an oval table-dish and cover. Fig. 12 shows the fastening as applied to a cap-covered jar. Figs. 13 and 14 illustrate two shapes of cover or lid to which the principle of fastener shown in Figs. 10 and 11 may be applied.

The stopper or lid is provided with a groove, slot, or channel to support and guide the revoluble fastener, so that the latter may be slid therein, but cannot be removed therefrom unless purposely, and so that the inclined faces of the fastener may be moved under and bear against projections on the edge of the jar, box, or receptacle to which the lid is fitted.

In carrying the invention into effect with a stopper or cover D, of circular, oval, or similar form, as illustrated in the drawings, the jar or receptacle G is made with a flange, upon which the stopper or cover rests, a washer S being placed between. In the stopper is formed the groove N, extending around the stopper, and in the latter is supported the revoluble fastener K, which is made in two semicircular parts of bent wire, substantially as shown in Figs. 4 and 5, the ends being shaped to hook or fasten together, being also, if desired, soldered together. The said ends may form loops H to project above or beyond the edge, as in Fig. 1, so as to afford means for moving the fastener K around the stopper D in order to bring the inclined projecting parts of the wire under the respective projections v, Fig. 2, on the rim of the receptacle and so fasten the cover D, or to bring the same from under said projections, and so unfasten the stopper or cover and enable it to be removed. The stopper may be made with a notch or way A to receive the loops H and limit the movement. In place of looping the ends of the wire K to form a finger-held, they may be looped, as in Fig. 7, to form an eyelet, into which pins H' may be inserted through slots L in the cover. It would then be difficult to open or close such a jar or other receptacle without said pins or similar tools; or there may be fixed on the wires K a rack Z to gear with a pinion R to be turned only by a certain key, as in Figs. 8 and 9. The lid D in



this case is shaped to receive said rack and pinion and afford the necessary space for movement of the rack.

- Where the receptacle and cover are oval, as in Figs. 10 and 11, or oblong with rounded corners or ends, as in Figs. 14 and 15, the revoluble fastener K may be made in parts hinged together, as in Fig. 11, to follow more easily the contour of the groove.
- 10 In some cases it would be more convenient to form the projections *v* on the stopper and the groove N in the vessel—for instance, in cases where the vessels are made of porcelain or china-ware and the cover in glass. In this case the fastening may be modified, as in Fig. 12, in which the cover is made with a flange to overlap the rim of the vessel, the projections *v* being on the interior face of the flange and the body K being reversed, so that the inclined parts thereof lie downward.

I do not claim, broadly, a wedge-closing for vessels, nor a revoluble wedge-fastener separate from the stopper and neck of the bottle, jar, or the like, nor the provision of a washer S, nor of the projections *v*; but

What I claim, and desire to secure by Letters Patent, is—

1. The combination, with a vessel or receptacle and its lid or cover, of an annular

groove N in one and projections *v* on the other, and a revoluble fastener K in said groove having inclined surfaces to bear on said projections, substantially in the manner and for the purpose described.

2. The combination, with a vessel or receptacle and its lid or cover, of an annular groove N in the one and projections *v* in the other, and a revoluble fastener K, constructed of bent wire, arranged to be slid in said groove and having inclined parts to bear on said projections, substantially in the manner and for the purpose described.

3. The combination, with a vessel or receptacle and a lid or cover thereto of form other than circular, but without sharp angles, of a groove N around the one and projections *v* on the other, and a sliding annular fastener consisting of hinged parts arranged to bear in said groove and having inclined surfaces to bear on said projections, substantially in the manner and for the purpose described.

In witness whereof I have signed this specification in presence of two witnesses.

CARL MARKWORTH.

Witnesses:

OTTO WOLFF,

PAUL DRUCKMÜLLER.