

(No Model.)

J. H. SHIELDS.
CUTTER FOR GASKETS, &c.

No. 487,894.

Patented Dec. 13, 1892.

Fig. 4.

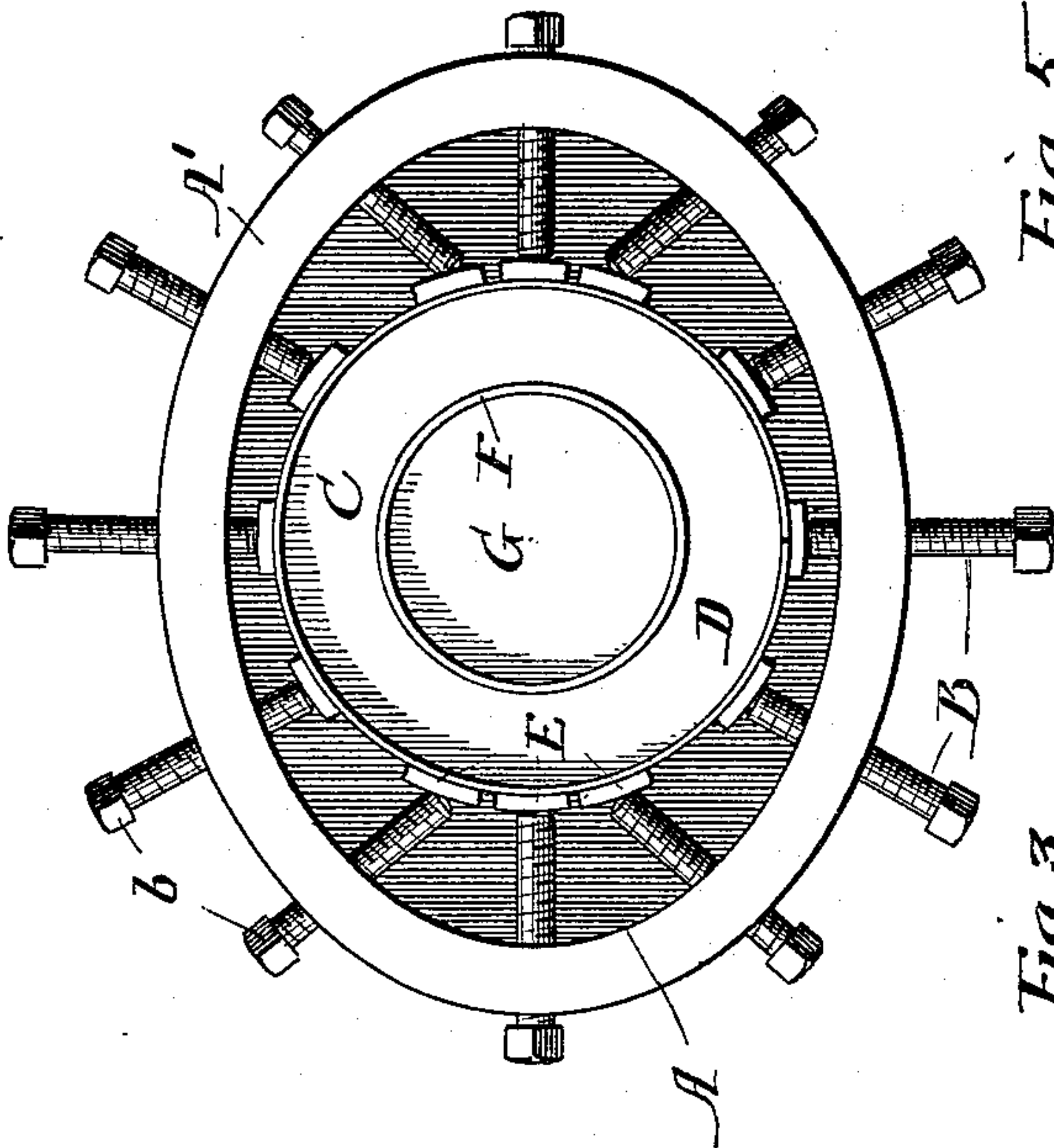


Fig. 5.

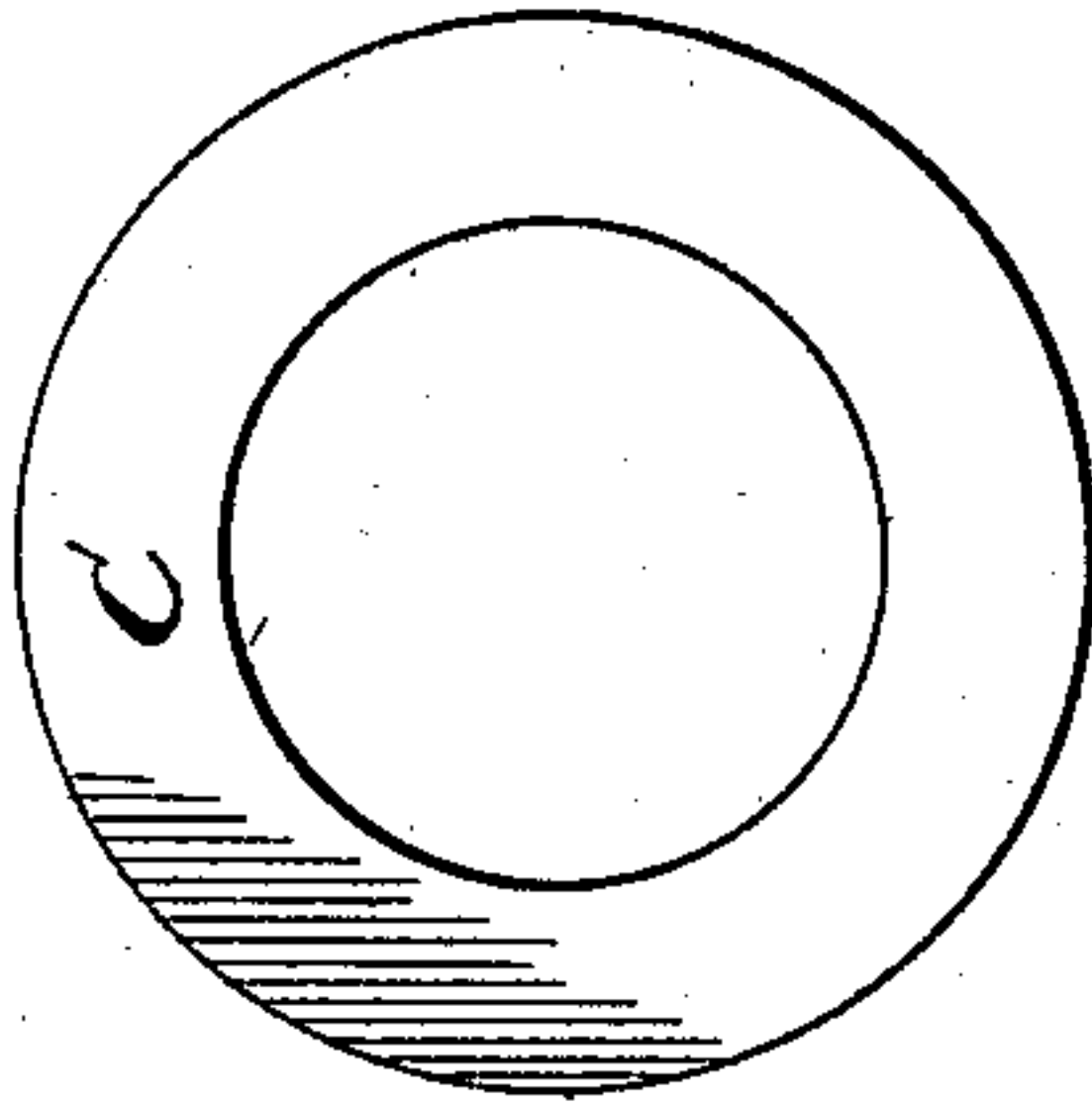


Fig. 3.

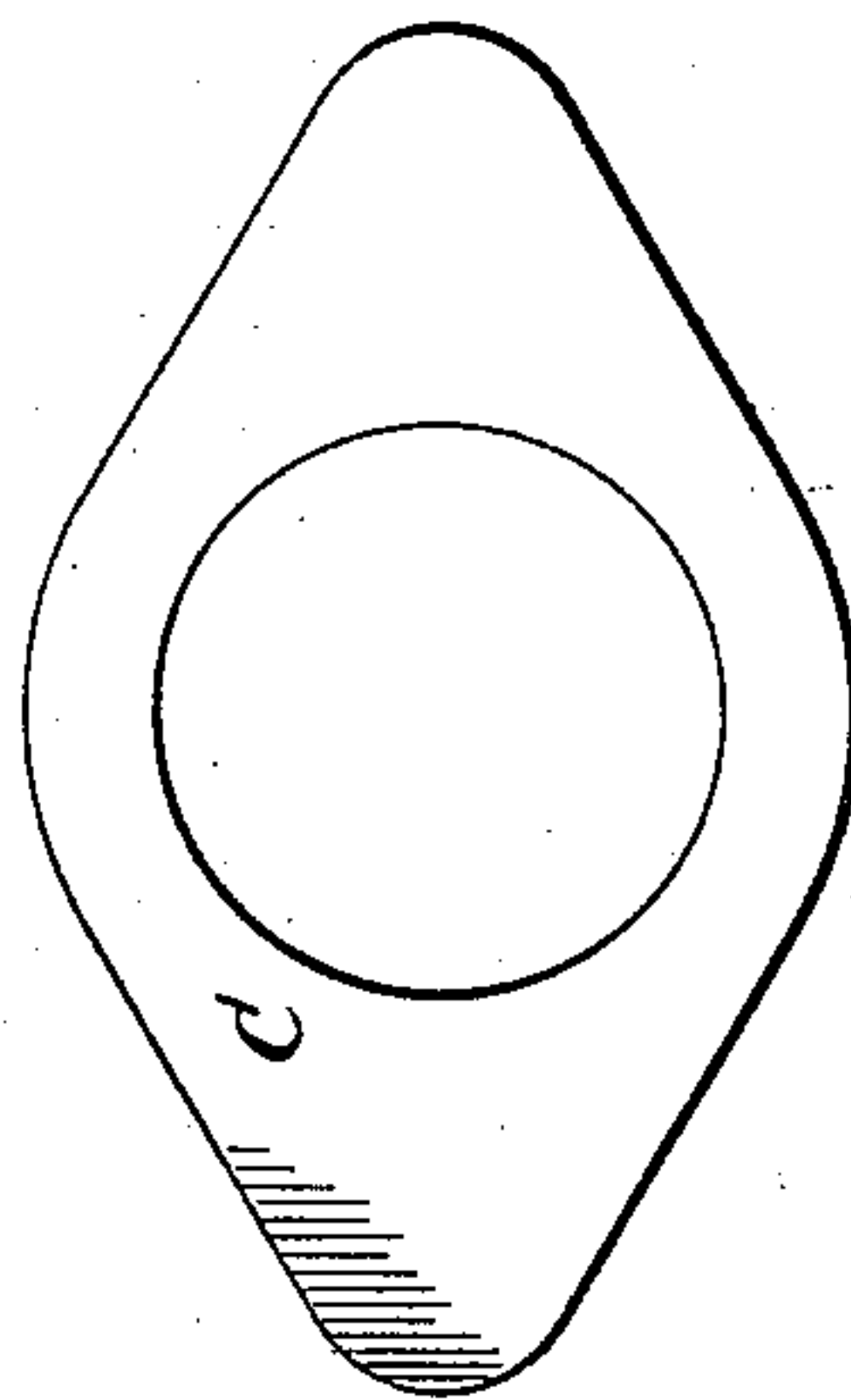
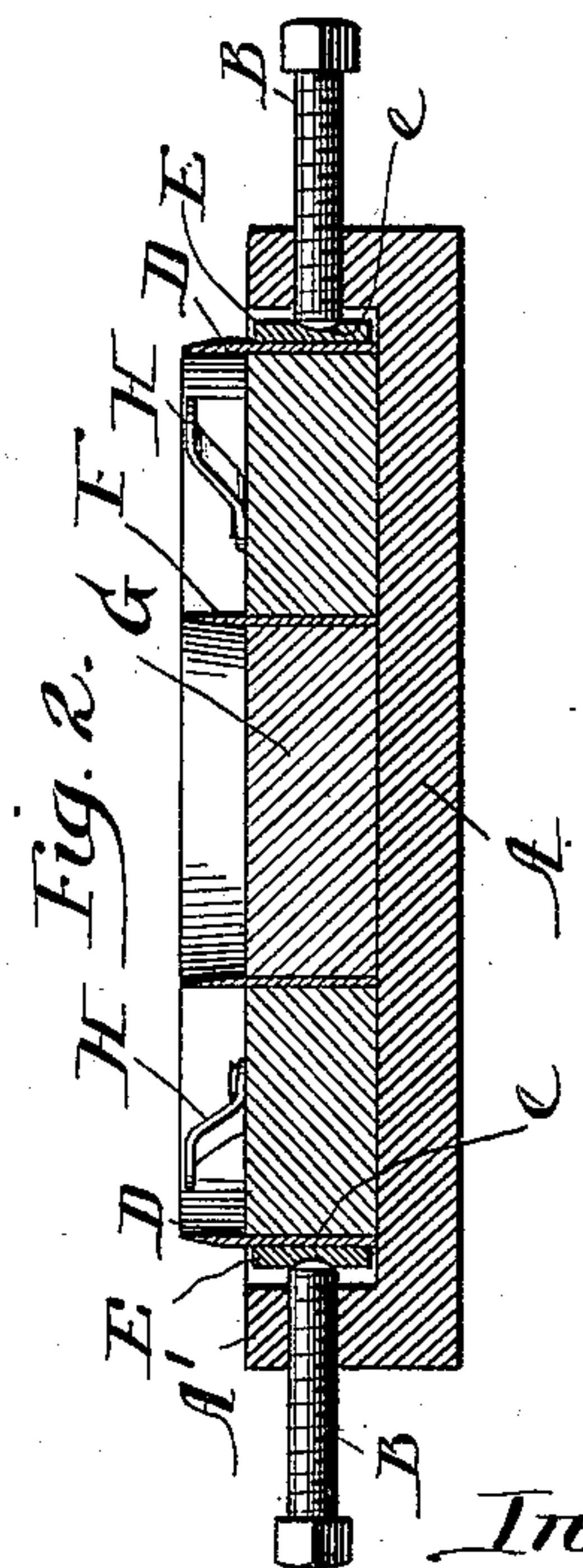
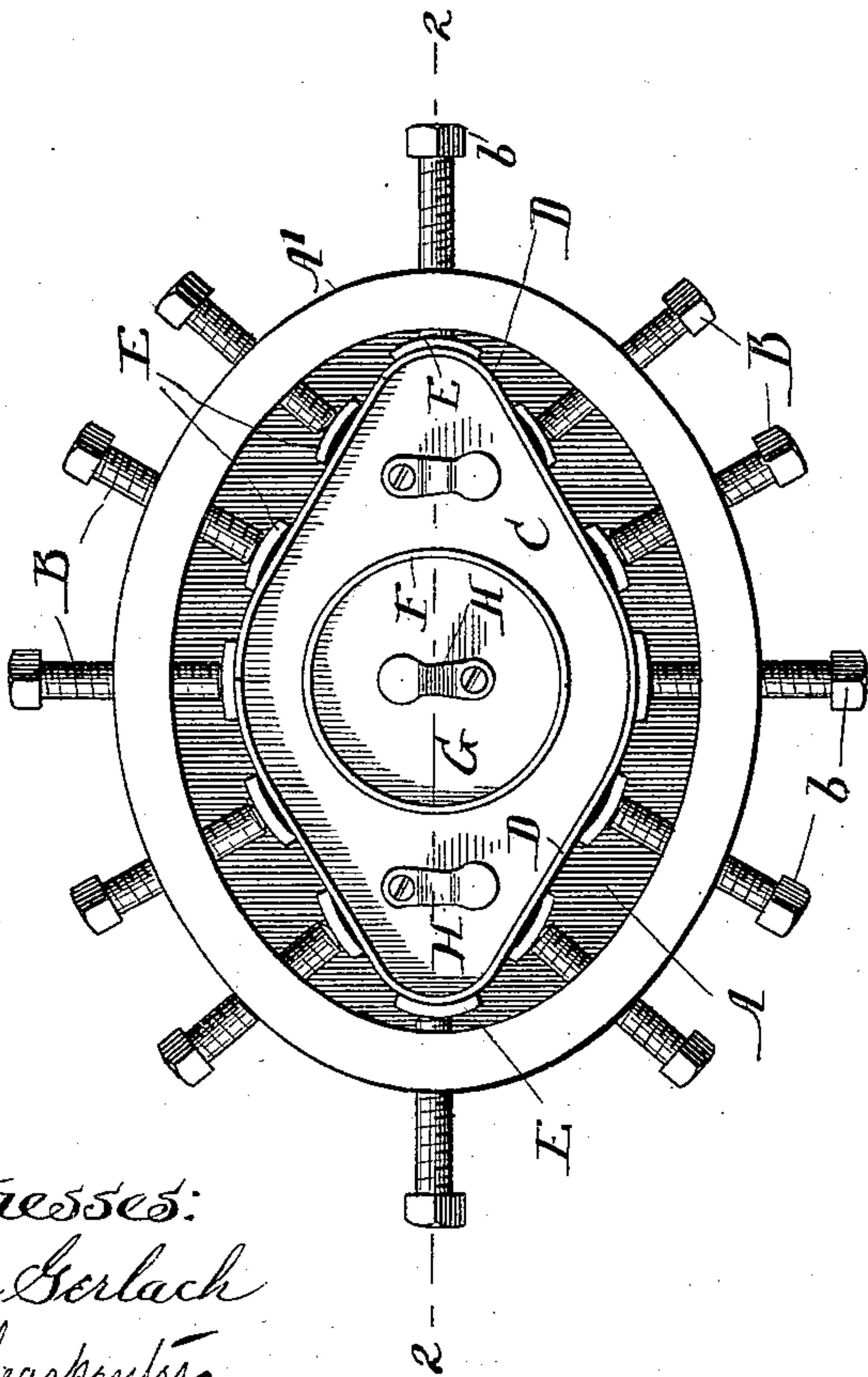


Fig. 1.



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UNITED STATES PATENT OFFICE.

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CUTTER FOR GASKETS, &c.

SPECIFICATION forming part of Letters Patent No. 487,894, dated December 13, 1892.

Application filed January 12, 1892. Serial No. 417,893. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. SHIELDS, of Chicago, in the county of Cook, State of Illinois, have invented certain new and useful
5 Improvements in Apparatus for Cutting Gaskets and Packing-Rings, and for other Purposes, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings,
10 forming part of this specification.

In cutting gaskets, packing-rings, and similar articles it is customary where a small number of these articles of a peculiar pattern are to be cut to use for such purpose a sharp
15 knife or chisel; but where the articles of such peculiar pattern are of sufficient number to warrant the expense special dies are made for the purpose. In certain classes of work—such, for example, as packings for the joints
20 of radiators and the like—a large variety of different shapes and styles of packing-rings is required, depending upon the various sizes and styles of article which the manufacturer may carry in stock. To provide dies for the
25 various sizes and shapes of packing-rings, many of which are arbitrary and may not be required for any considerable number of articles, entails a very material expense in the cost of dies, or if the packing-rings are made
30 by hand with knife or chisel the cost of labor for cutting the same is an item of considerable expense.

The object of the present invention is to provide apparatus whereby packing-rings
35 and the like of various sizes and shapes may be cut; and this object of invention is accomplished by the novel mechanism hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the
40 claims at the end of this specification.

Figure 1 is a plan view of an apparatus embodying the invention. Fig. 2 is a view in vertical section on line 2 2 of Fig. 1. Fig. 3 is a detail plan view of the pattern-blocks
45 shown in Figs. 1 and 2. Fig. 4 is a plan view of the apparatus, showing a different shape of pattern-block. Fig. 5 is a plan view of the pattern-block shown in Fig. 4.

The frame of the apparatus has preferably
50 a base A, from which rises the flange A', the base A being preferably employed as a bearing for the knife or knives and pattern-block

within the frame. In the flange A' of the frame is formed a number of threaded perforations to receive the adjusting-screws B, 55 these screws being furnished with heads b, whereby they can be conveniently manipulated. Within the frame A is placed a support or block C, of the shape corresponding in outline to the shape of the packing-ring or 60 other article to be cut, and around the face of this support or block C is set the flexible knife D, which may consist simply of a steel strip having one edge sharpened, as shown. The knife D is caused to conform to the out- 65 line of the support or block C by means of the screws B, suitable bearing-plates E being interposed between the ends of the screws and the knife to secure a more uniform bearing of the knife D against the edge of the 70 support or block C, and by preference the plates E have their outer faces provided with seats e to receive the ends of the screws B, so as to better retain them in position.

When the mechanism is to be used for cut- 75 ting packing-rings and like articles having cut-away central portions, the support or block C will be formed with a perforated or open center, as shown, and within this center will be placed an inner knife F, that will be con- 80 veniently held in place by means of a support or block G, the knife F and block G filling the open space of the block C.

As the knives D and F are simply steel strips, it is manifest that they can be bent to 85 conform to any desired outline corresponding to the shape of the article to be cut, the knives being cut in strips of proper length, so as to enable their edges to be properly brought together when they have been set 90 about the supports or blocks. Thus, for example, in the modification shown in Fig. 2 of the drawings the block C is of annular shape and the knife D is forced to conform to its periphery by means of the screws B and 95 plates E.

Manifestly a great variety of articles may be cut by means of this improved apparatus, it being only necessary to substitute supports or blocks C of proper contour and to employ 100 knives of suitable length, the same frame, set-screws, and presser-blocks being used in each instance.

Preferably the supports or blocks C and G

will be furnished with discharge-plates H, of spring metal, conveniently attached thereto to enable the packing-rings or like articles to be readily freed from the knives.

5 Instead of the blocks C and G any other suitable form of support may be employed to resist the pressure of the adjusting-screws B upon the knives, and I do not therefore wish the invention to be understood as restricted
10 to the blocks shown.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An apparatus of the class described, comprising a continuous perforated frame, a suitable stationary pattern support or block within said frame, a series of set-screws passing through said frame at different points opposite said stationary support or block, a flexible knife encircling said support or block and interposed between it and the set-screws, whereby the knife may be forced against the edge of the support or block and be made to conform to its outline by said set-screws, said
15 set-screws and said support or block being independent of each other, substantially as described.

2. In apparatus of the class described, comprising

a rigid frame, a support or block within said frame, a flexible knife encircling said support or block, a series of pressure devices movable independently of said support or block and serving to force said knife at different points against the support or block, and a second knife within said support or
30 block, substantially as described.

3. An apparatus of the class described, comprising a rigid frame, a support or block C within said frame, a flexible knife D, encircling said support or block, a knife F within said support or block C, and a series of set-screws for forcing said knife D against said support or block C, substantially as described.

4. In apparatus of the class described, comprising a main frame having a bottom portion A, a perforated raised flange A', screws B, passing through said flange A', presser-blocks E, a support or block C, an inner knife F, and a support or block G, substantially as
45 described.

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