

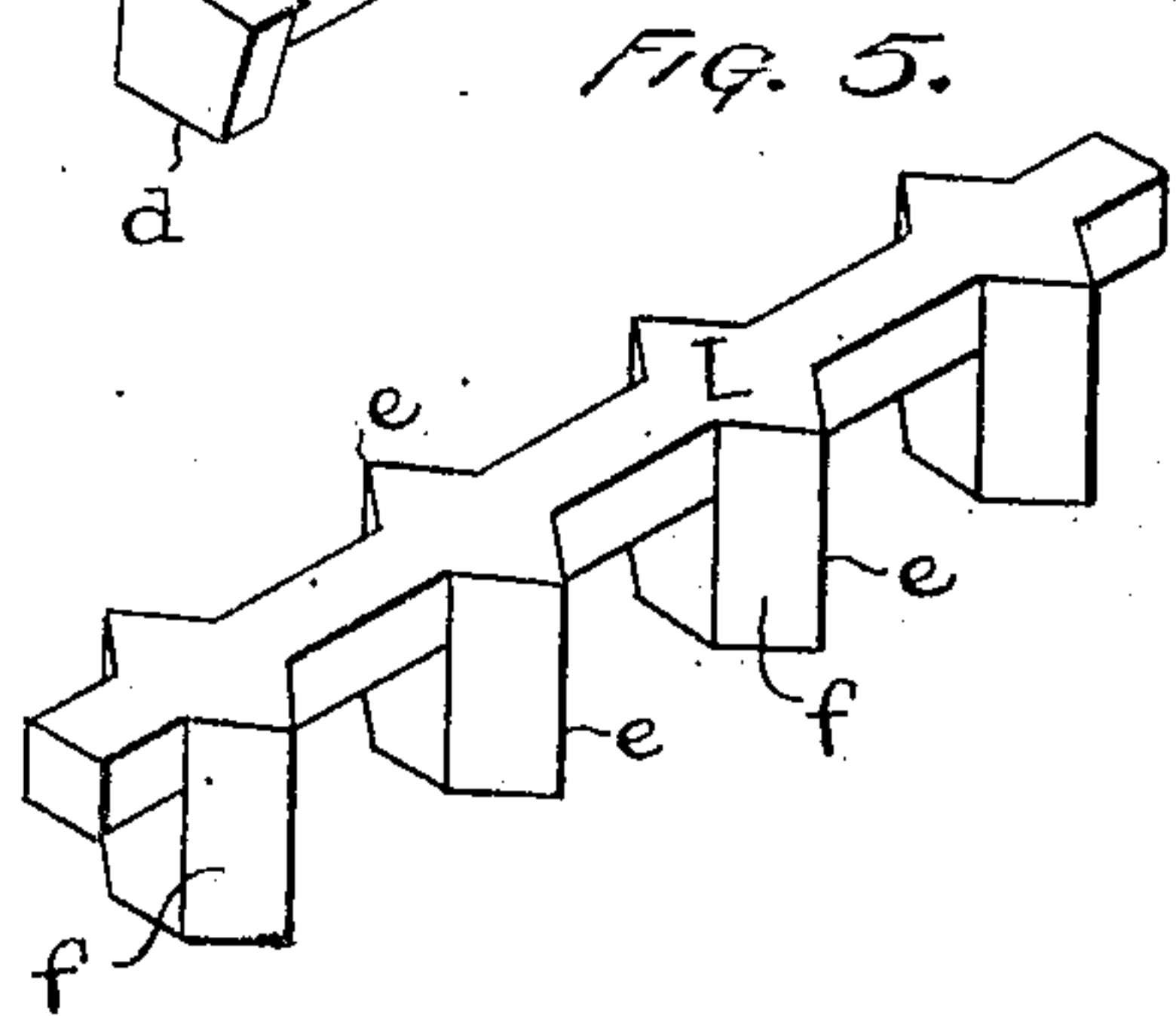
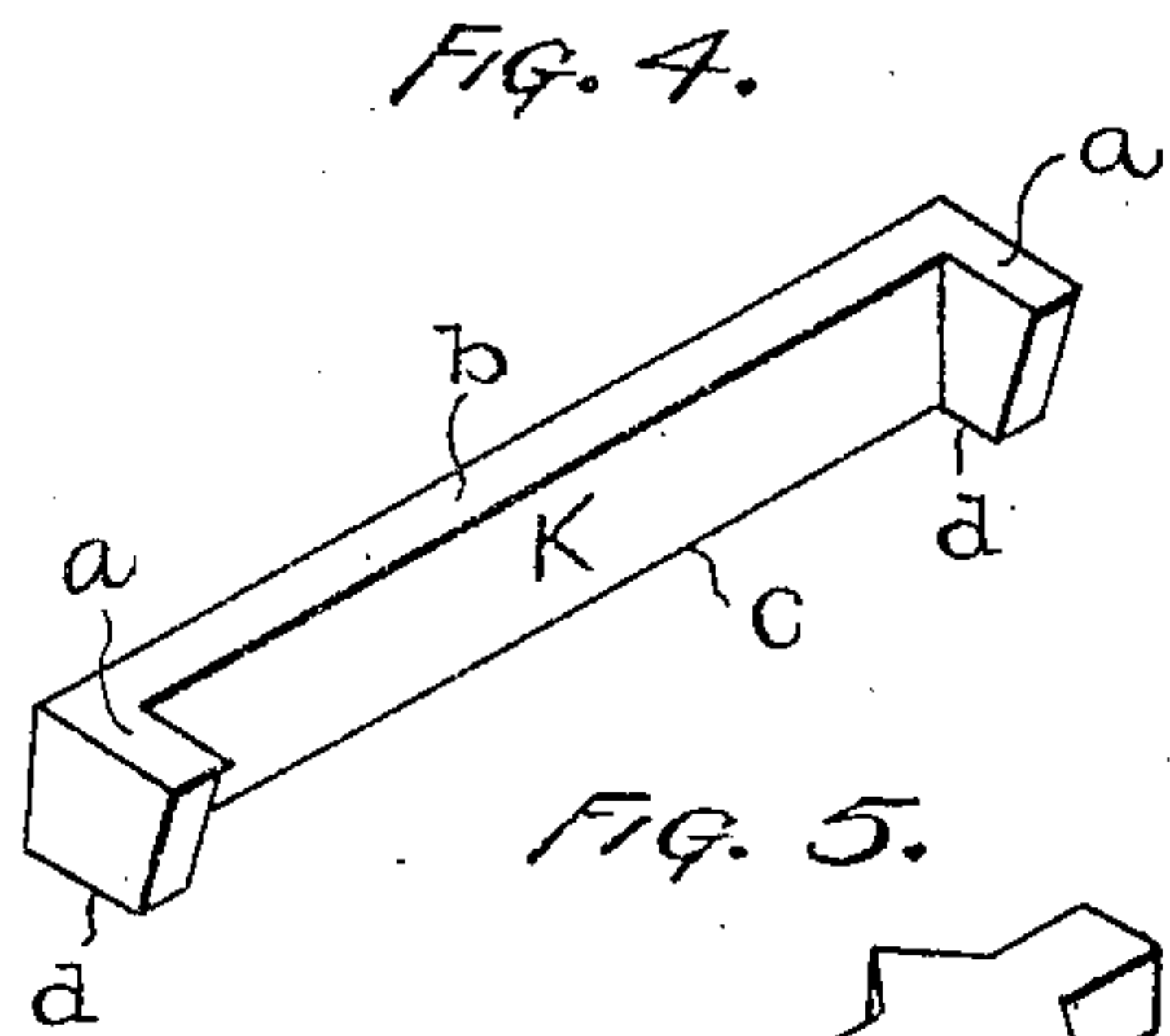
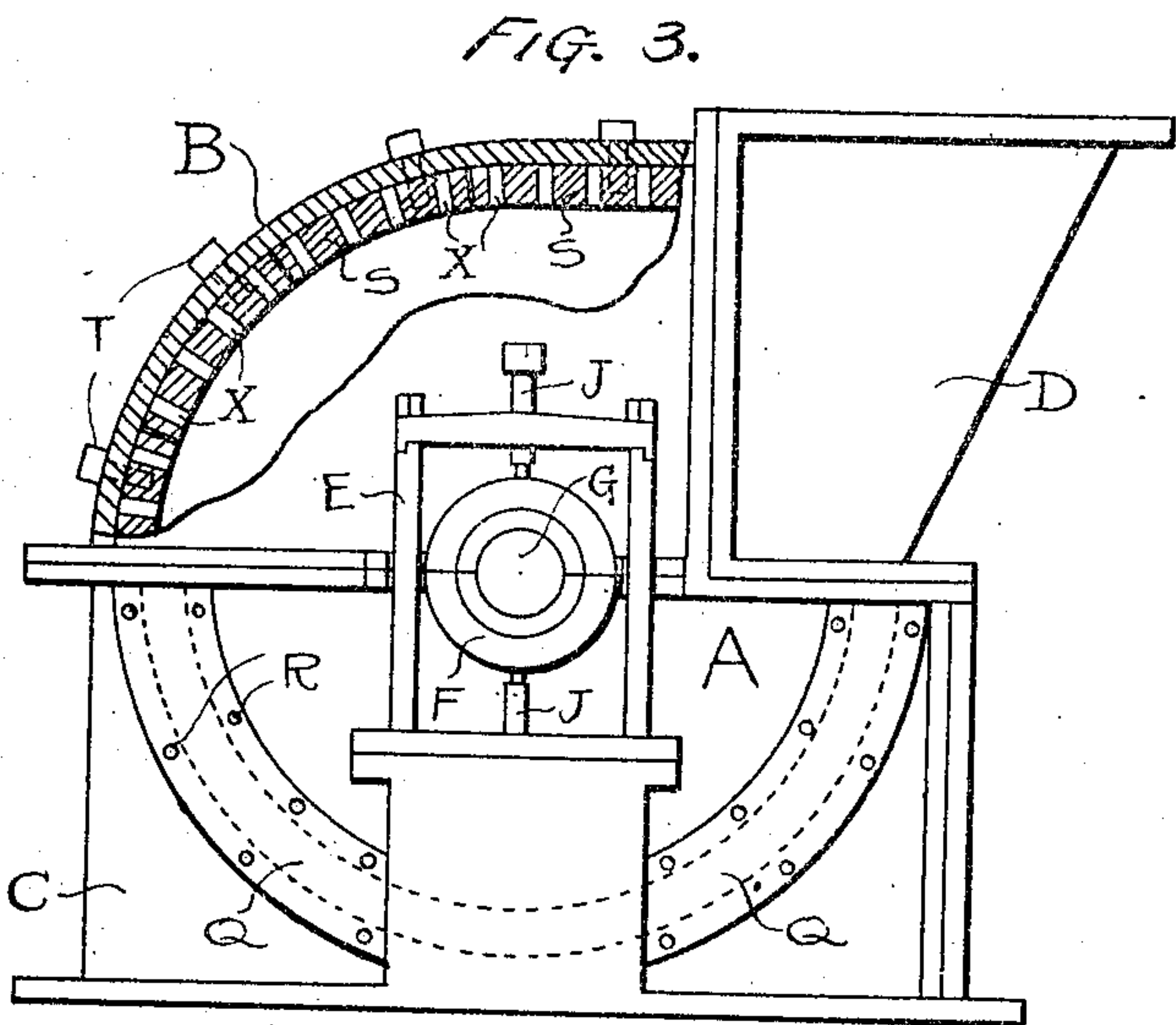
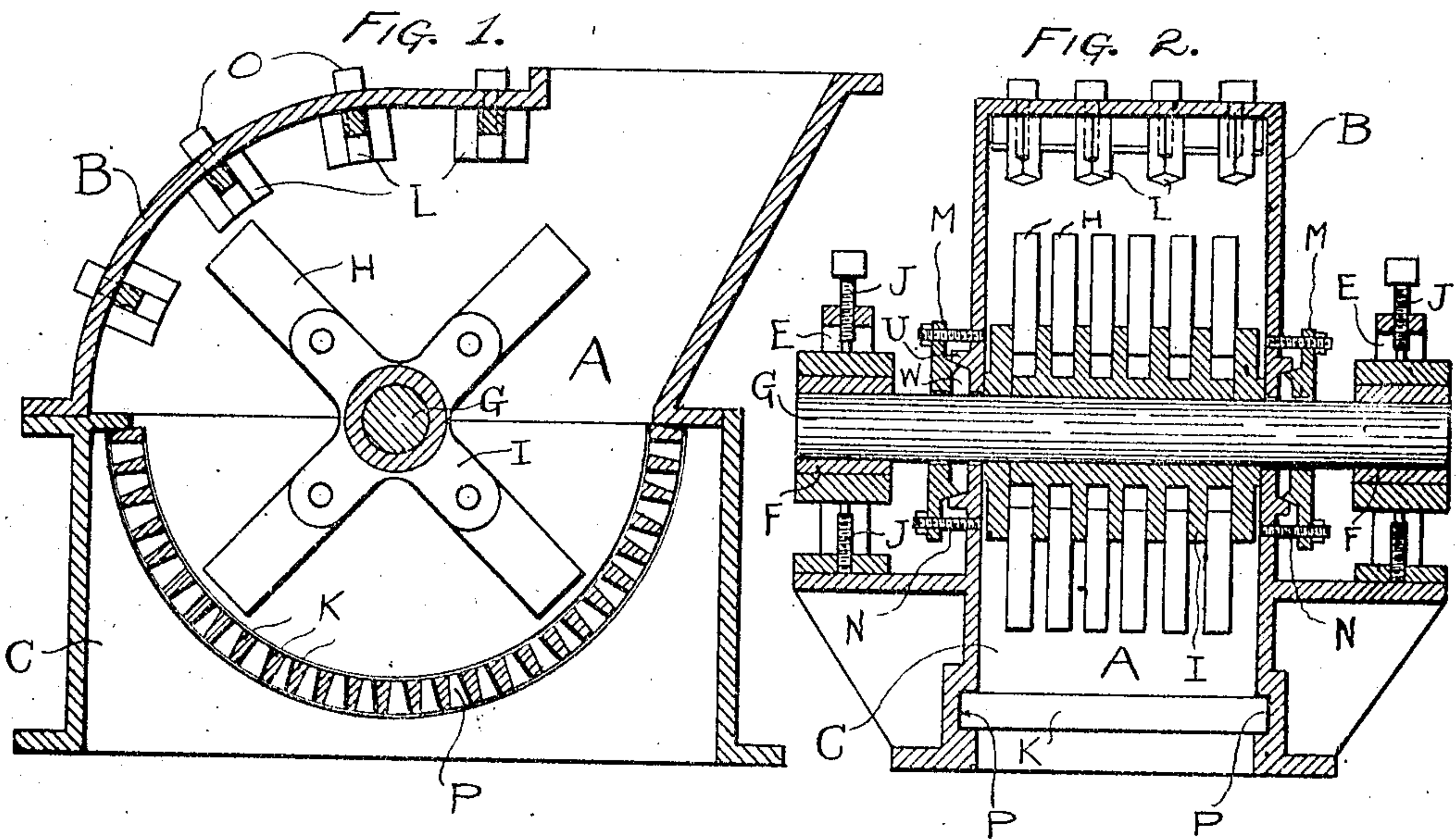
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PULVERIZER.

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916,697.

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WITNESSES.

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PULVERIZER.

No. 916,697.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM GRUENDLER, a citizen of the United States, residing at St. Louis, and State of Missouri, have invented a new and useful Improvement in Pulverizers, of which the following is a specification.

My invention relates to improvements in pulverizers in which rotating swinging hammer bars operate in conjunction with sizing bars held in position by means of grooves provided in sides of pulverizers; and the objects of my improvements are, first, to provide annular grooves in the sides of pulverizer to receive the ends of sizing bars; second, to afford facilities for easy access to sizing bars on exterior of machine by providing removable plates; third, to prevent the pulverized material in machine from escaping around shaft openings in the sides of machine, by providing a dust tight contrivance; fourth, to obtain greater pulverizing efficiency in the machine by providing baffler bars or plates; fifth, by providing a sizing bar that can be readily made and easily adjusted for any degree of pulverizing desired. I attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figure 1, is a vertical longitudinal section of the machine; Fig. 2, a vertical transverse section of the machine; Fig. 3, a vertical side elevation of machine with part shown in section; Fig. 4, a detailed view in perspective of the sizing bar; Fig. 5, a detailed view in perspective of the baffler bar.

Similar letters refer to similar parts throughout the several views.

The upper part B, with the lower part C, and the hopper spout D, constitute the frame of the machine A. The shaft G, is held in position, and rotates in, the adjustable journal boxes E. The journal boxes are in turn held in place by the frames E, adjusting screws J, being provided in same for the adjusting of journal boxes. The journal frames are supported by brackets provided on sides of machine to which they are secured by bolts. A ribbed spider I, is provided and secured rigidly to shaft G, to which are loosely bolted the pivoted hammers or beaters H. Annular grooves P, are provided in sides of machine extending in a semi-circle, downwardly from the horizontal center line of shaft on one side of same, to a similar height on the other side as shown. The grooves are made of a suitable width and depth to permit of

easy sliding-in of the sizing bars K. On the exterior of machine and covering these grooves, removable plates Q are provided, held securely in place by the screws R, as shown in Fig. 3. The sizing bars K which are held in position by the grooves P, are constructed as shown in Fig. 4, being made of one piece of straight metal with ends *a* and *d*, bent as shown, a center line passing through faces *a* and *d* of ends would intersect at right angles a center line passing through faces *b* and *c*. Faces *a* and *d* of ends of bar are of similar width, but of different lengths as may be desired. Face *c* is of an equal width to faces *a* and *d* tapering gradually down to any desired width at face *b*. This sizing bar can be made of any metal desired.

Secured to the interior side of upper part B of machine, are the baffler bars L, as shown in Fig. 1, and in detail in Fig. 5. They are held in any position desired by bolts O parallel to center line of shaft G. The teeth *f* of bars are placed in a staggered position in machine, so that the center line of tooth *f* on every alternate bar would be in line with the center line of the space between teeth *f*, on the bar immediately preceding and following it. The object of this is to offer more obstruction to the passage of material being pulverized and thereby increase the efficiency of machine. The bars can be made of any metal desired.

In Fig. 3 baffler plates S are shown. These plates are removable and held in place on interior of upper part B of machine by bolts T as shown. The plates have holes X extending through and at right angles to the interior face of same. Holes can be of any size or distance apart desired, and plates can be of any width. The object of these baffler plates is similar to the baffler bars, and can be used for material requiring less hammering to be pulverized, than would be required where the baffler bars are used.

To secure a dust tight contrivance around the shaft holes on the exterior sides of pulverizer I provide the following arrangement; A rib U, circular in shape and of a desired height, is provided on the outside of machine at an equal radius all around from center line of shaft G, the side of this rib next to shaft G is beveled as shown. A rib is provided on a circular plate M that engages snugly on the beveled side of rib U as shown, the plate M being held in place and made ad-

justable by the bolts N. The space W between plate M and side of machine is filled with a suitable packing, which is pressed tightly around shaft G by the adjusting of plate M, thereby preventing any escape of pulverized material from interior of machine by way of the shaft holes.

I am aware that prior to my invention, pulverizers have been made with rotating swinging hammers in conjunction with sizing bars. I therefore do not claim such a combination broadly; but

I claim:

1. In a pulverizer, a frame, annular grooves in the sides of the frame, removable plates on the exterior of the frame covering

said grooves, sizing bars having their ends secured in the grooves and pivoted hammers or beaters rotatable within said frame and co-acting with said bars.

2. In a pulverizer, a frame, integral baffler bars secured within and to the upper portion of said frame, said baffler bars having a rectangular body portion and diamond shaped projections or teeth extending downwardly therefrom to coact with hammers or beaters rotatable within said frame.

WM. GRUENDLER.

Witnesses

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