

No. 788,124.

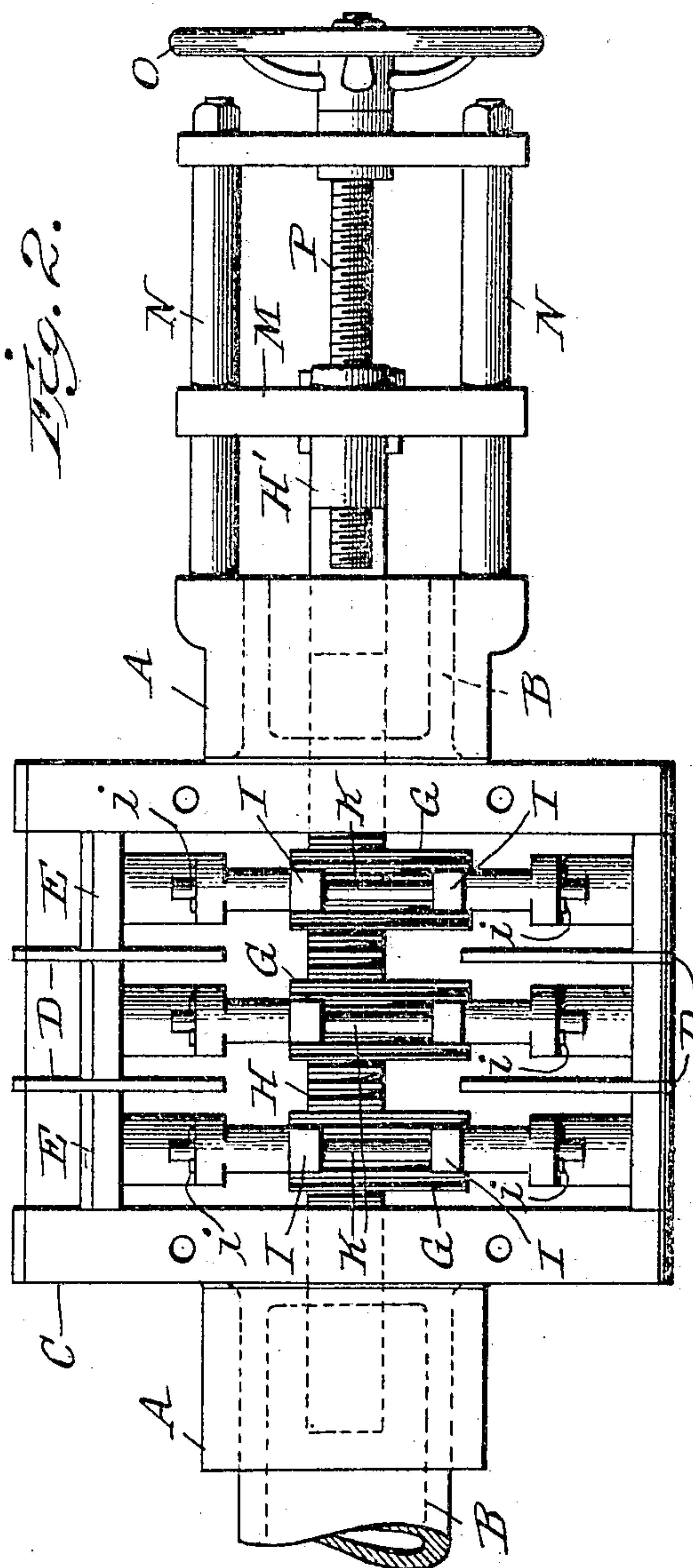
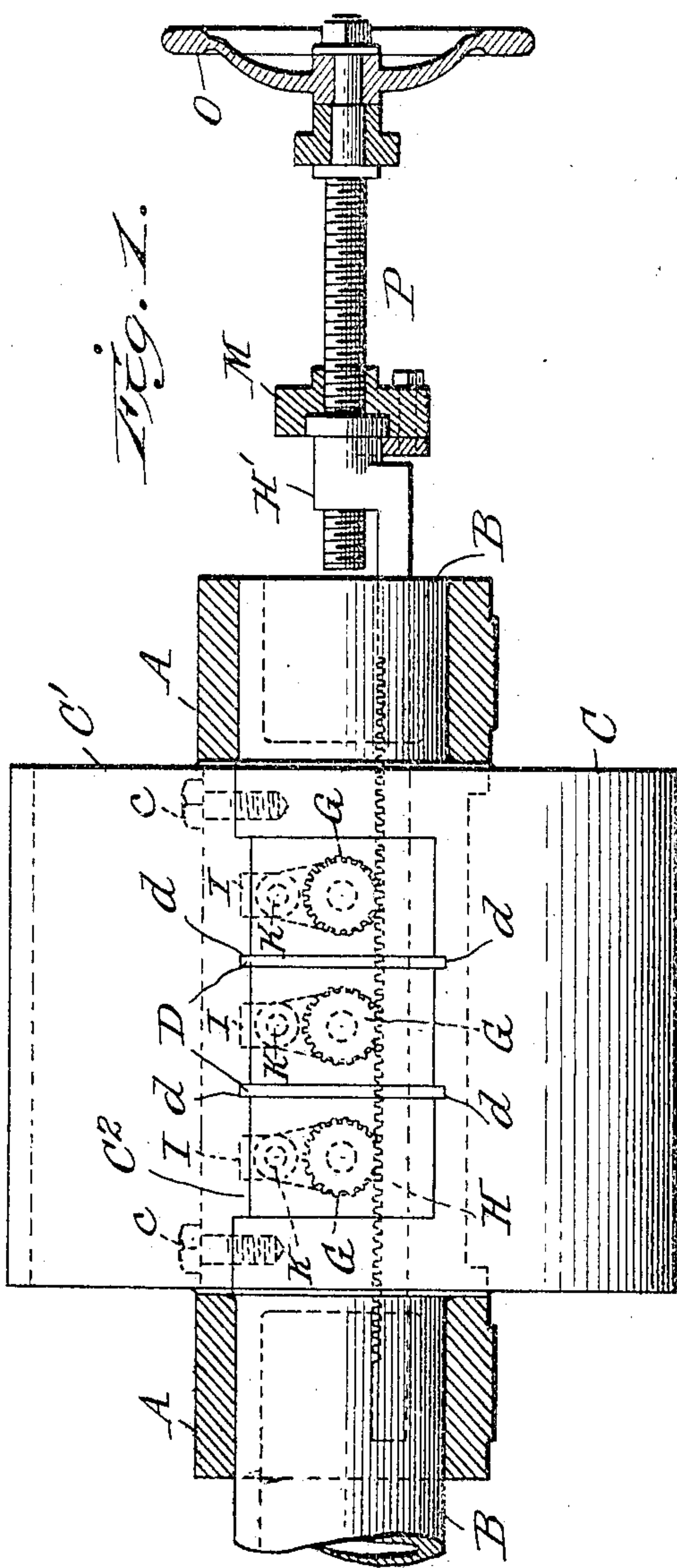
PATENTED APR. 25, 1905.

F. H. VAN HOUTEN.

DOUGH DIVIDER.

APPLICATION FILED DEC. 30, 1904.

2 SHEETS--SHEET 1.



Witnesses

Edwin L. Jewell

Thomas Durant

Inventor

Inventor

Frank H. Van Houten

ಪೆ೪ Church & Church

his Attorneys.

No. 788,124.

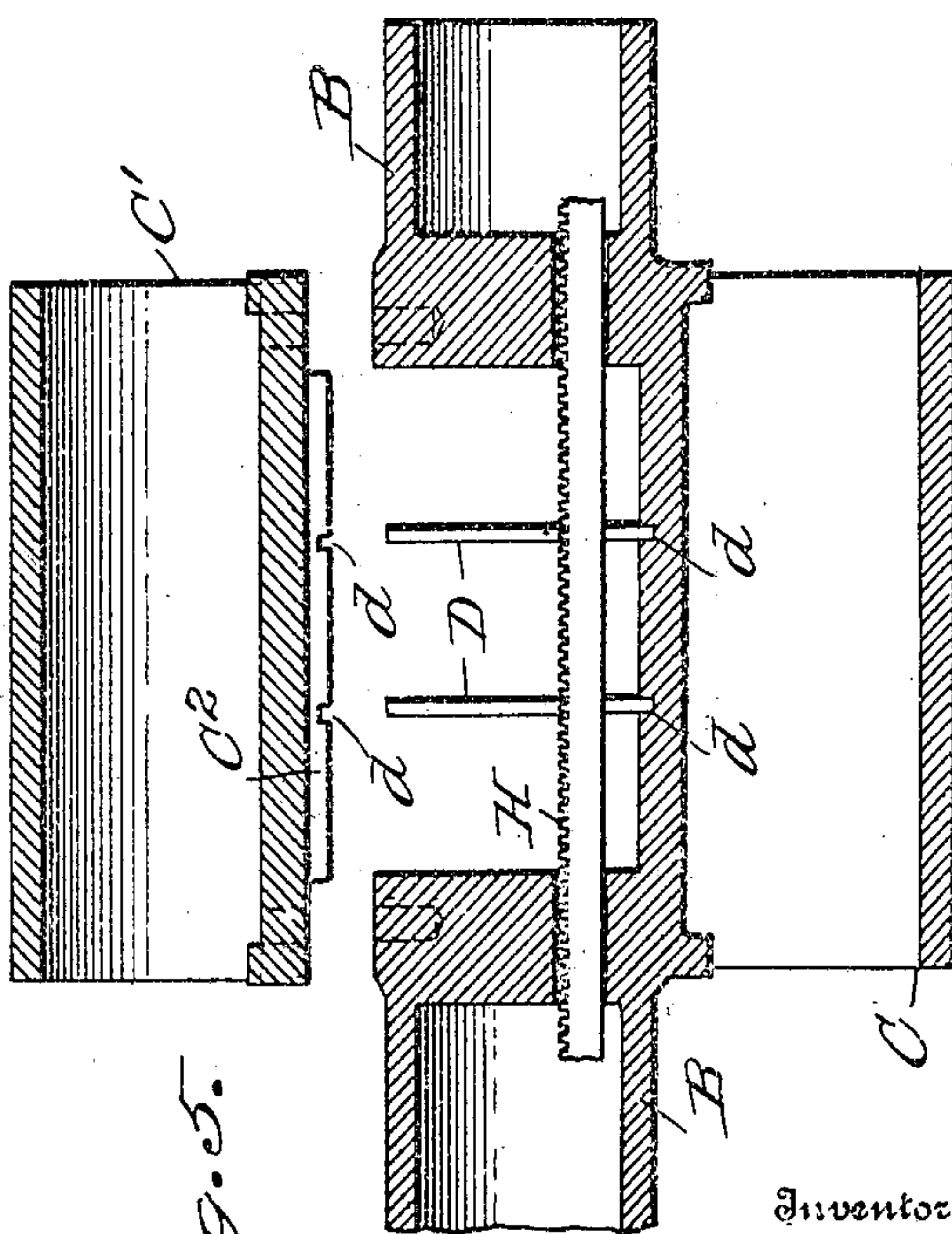
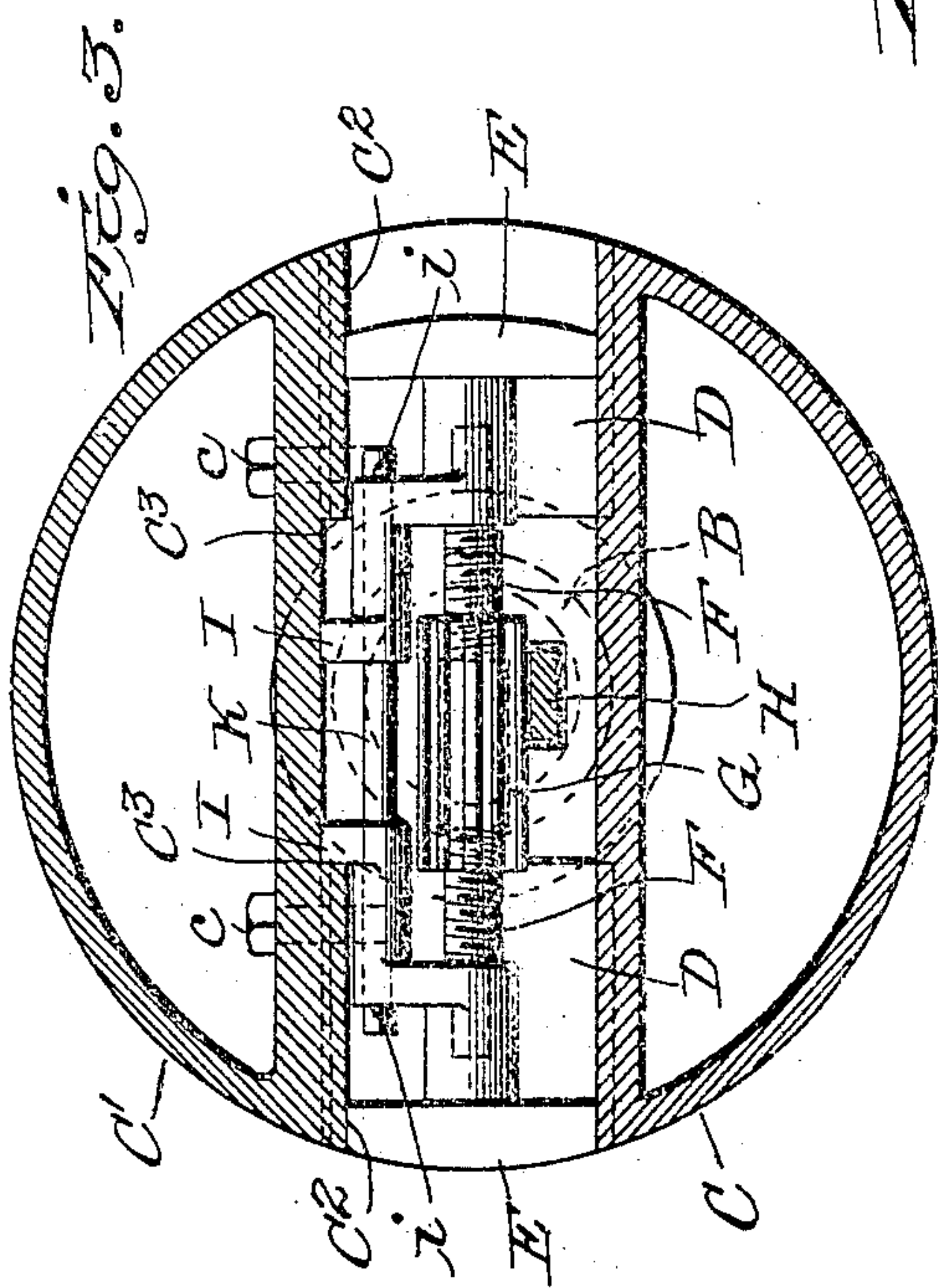
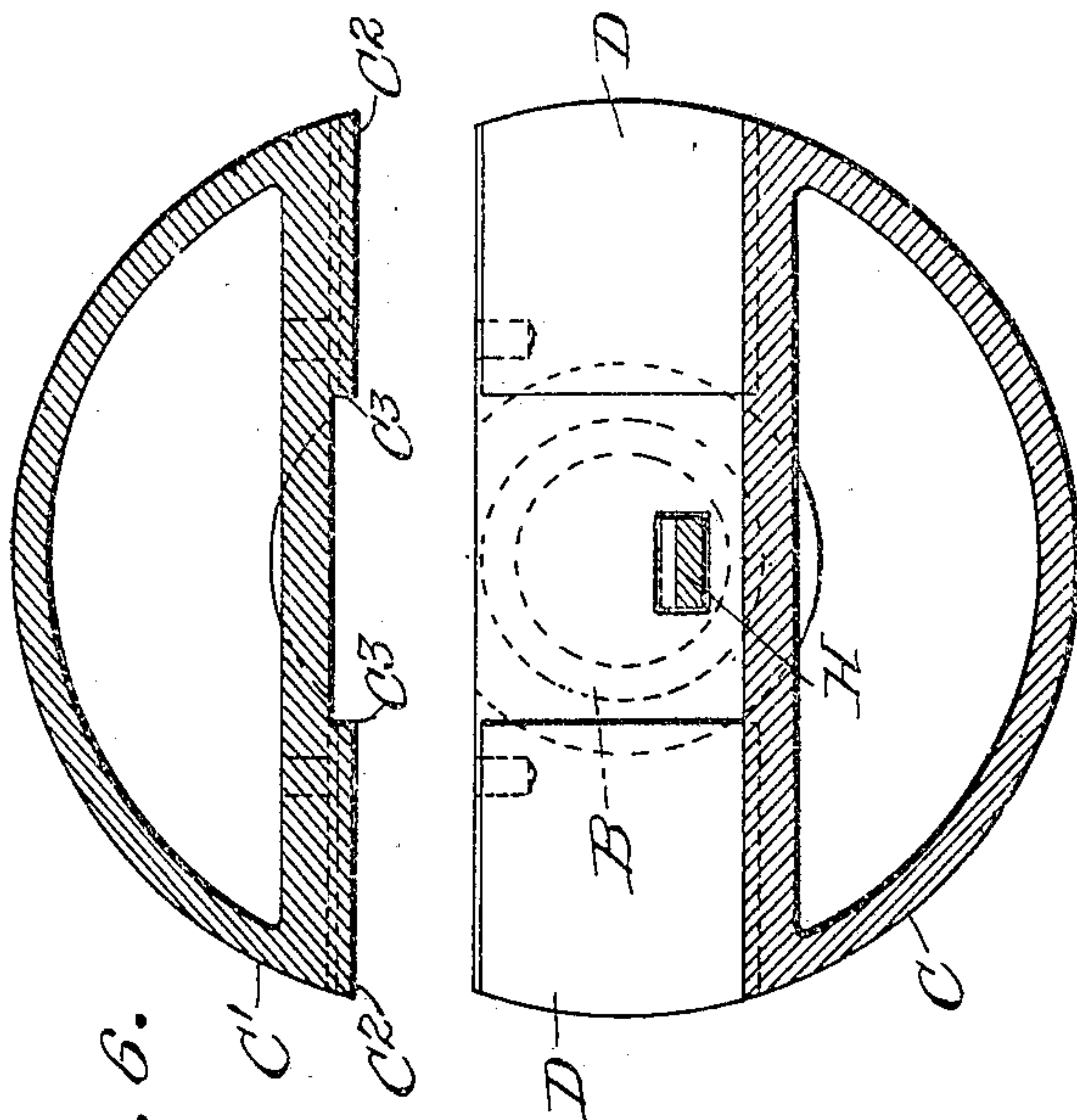
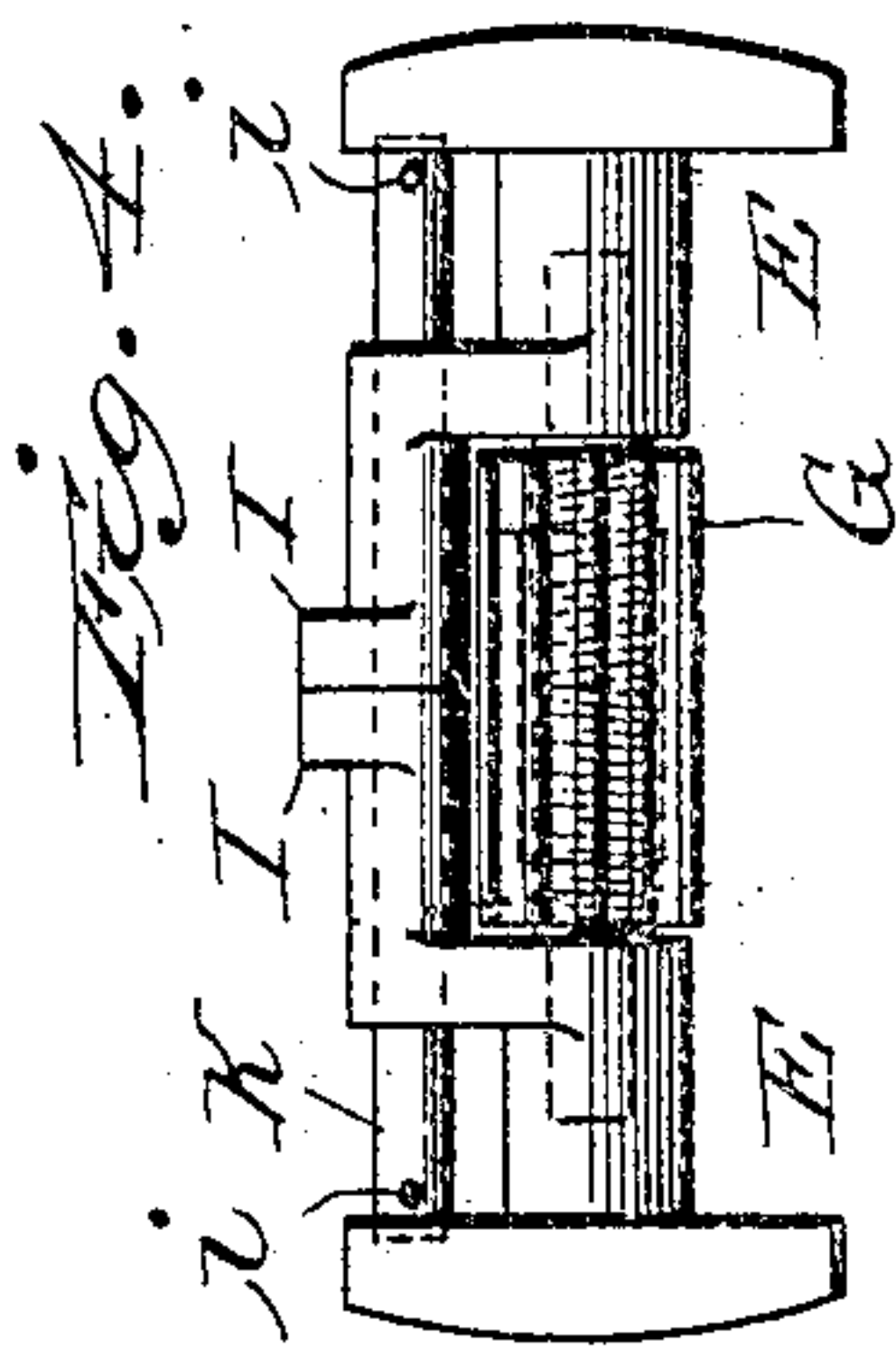
PATENTED APR. 25, 1905.

F. H. VAN HOUTEN.

DOUGH DIVIDER.

APPLICATION FILED DEC. 30, 1904.

2 SHEETS-SHEET 2.



Witnesses
Edwin L. Jewell
Thomas Durant

Fig. 5.
Inventor
Frank H. Van Houten
By Church & Church
Attorneys

UNITED STATES PATENT OFFICE.

FRANK H. VAN HOUTEN, OF FISHKILL-ON-THE-HUDSON, NEW YORK.

DOUGH-DIVIDER.

SPECIFICATION forming part of Letters Patent No. 788,124, dated April 25, 1905.

Application filed December 30, 1904. Serial No. 238,949.

To all whom it may concern:

Be it known that I, FRANK H. VAN HOUTEN, a citizen of the United States, residing at Fishkill-on-the-Hudson, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Dough-Dividers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention is applicable to dough-dividers of the class described in my contemporaneous application, Serial No. 207,837, filed May 13, 1904, the invention of the present application relating to the construction of the cylindrical measuring head or part containing the measuring-receptacles, the general construction of which is shown but not claimed in said prior application.

One object of the invention is to provide a measuring-head which may be opened and the internal parts readily removed for cleaning and again assembled correctly without requiring a high degree of skill.

A further object is to provide a construction which may be manufactured easily at a reasonable cost, be accurate and smooth in action, and not liable to disarrangement by pressure or the accumulation of flour, dust, or particles on and within the working parts.

The invention consists generally in a cylindrical measuring-head having a number of measuring-chambers therein arranged side by side axially of the cylinder, a segment of the cylinder being removable to give access to all of said chambers.

The invention further consists in a cylindrical measuring-head having a removable segment forming one side of a duplicity of measuring-chambers and adjustable mechanism for determining the capacity of the chambers, removable through the side of the chambers, adapted to be closed by the removable segment.

The invention further consists in certain novel details of construction and combinations and arrangements of parts, all as will be now

described, and pointed out particularly in the appended claims.

Referring to the accompanying drawings, Figure 1 is an elevation, partly in section, of a measuring-head for a dough-divider, together with its adjusting mechanism, constructed in accordance with the present invention. Fig. 2 is a top plan view of the same with the removable segment off. Fig. 3 is a cross-section through the head, taken in the plane of one of the chambers, but with the followers and parts of their adjusting mechanism in elevation. Fig. 4 is a detail elevation of a pair of the adjustable followers removed from the head. Fig. 5 is a longitudinal section through the head with the segments separated and the followers removed. Fig. 6 is a section at right angles to Fig. 5.

Like letters of reference in the several figures indicate the same parts.

The letter A indicates bearings which form part of the frame of a dough-divider, and in these bearings the measuring-head is journaled in position to receive the dough from the forcing mechanism; but as the latter forms no part of the present invention illustration of the same is not necessary.

The journals for the cylindrical rotary head are shown at B and preferably form integral axial extensions of the larger segment C of said head. This head is in separable sections, each section preferably being a segment of the cylinder and one larger than the other, with means for detachably connecting the segments together. The measuring-chambers are formed by channels extending entirely through the cylinder, and in said preferred construction the said channels are formed entirely in the larger segment C, while the smaller segment C' forms one side only of the channels. By this construction a recess or opening may be formed in the flat face of the larger segment of proper dimensions for all of the measuring-chambers. The accurate machinery of this recess or opening is a simple matter, and suitable partitions D, subsequently inserted in grooves d, serve to subdivide the recess or opening into chambers of the desired size. In the head adopted for

illustrating the invention three chambers are shown, and the partitions D do not extend entirely through the channel, but the center is left open, as shown in Fig. 3, for the accommodation of parts of the follower-adjusting mechanism, to be presently described. The smaller segment C' is preferably held in place by bolts *c* or other suitable fastening means, and it supports projections or plates C², in which grooves for the partitions are formed. As thus constructed the channels form diametrical measuring-chambers arranged in series axially of the cylindrical head, and dough may be forced into either set of chambers when presented to the forcing mechanism by the rotation of the head in the well-understood manner. To determine the capacity of the measuring-chambers and to discharge the dough therefrom, each chamber is provided with a follower E, having its outer face curved to conform to the peripheral curvature of the cylinder, and opposite followers are connected by an adjusting mechanism for determining the range of movement of the followers, and consequently the capacity of the chambers. In the preferred form the adjusting mechanism consists of inwardly-projecting screw-stems F on the heads and an intermediate pinion-nut G, the latter usually being of considerable length, so as to permit of the necessary play through a longitudinal adjusting-rack H, located below, but with which all of the pinion-nuts mesh. Each follower is further provided with a stop projection or shoulder I, adapted to contact with the shoulder or projection C³ in the head to limit the outward movement of the follower when the face of the latter is flush with the surface of the head. Inasmuch as the followers are adapted to be removed from the chambers for cleaning, provision is made to prevent them from becoming separated and so destroying their proper relative positions, the means adopted consisting of a guide-bar K, working loosely in the bases of the projections I above the pinion-nuts and having stop pins or shoulders *i* to arrest the movement of the followers away from each other before the pinion-nuts can become disengaged from the screw-stems. This guide-rod also prevents the followers from rotating with relation to each other, and consequently by turning all of the nuts until the followers are close together or providing suitable marks for indicating a similar adjustment of all the followers the correct reassembling of the parts is a simple matter, easily effected by unskilled labor.

Rack H, before referred to, is mounted to slide longitudinally of the head, as indicated in Figs. 1, 2, and 5, and at its outer end it is provided with a collar or sleeve H', arranged axially of the head and adapted to take a bearing in a nut or slide M, adapted to work on guides N, projecting from the frame. This nut or slide is moved longitudinally of the

axis of the head to effect the simultaneous adjustment of the followers. Practical experience shows that the followers must be adjusted or the capacity of the measuring-chambers varied in accordance with the condition of the dough passing through the machine, as it is impossible to have the dough uniform in the successive batches or even in different portions of the same batch, while the requirement is that the machine shall deliver the dough subdivided into parts of uniform weight. This necessity requires the use of an adjusting mechanism which shall be accurate, capable of adjustment while the machine is running, and convenient to the attendant standing in front of the machine. For the purpose stated I have provided a hand-wheel O on the end of an adjusting-screw P, journaled in the end of the guides N and coöperating with the nut or slide M, so as to move the latter, together with the rack, axially of the head in either direction. The adjusting-screw and hand-wheel, it will be noted, do not rotate with the head, but remain stationary, unless turned by the attendant, who may then regulate the capacity of the receptacles very accurately, and by occasionally weighing a sample the product of the machine is easily made practically uniform.

In operation the dough forced into the chambers on one side of the head drives the followers back, and they in turn push the opposite followers out and discharge the dough from the chambers on that side. Thus no mechanism for moving the followers other than the adjusting mechanism is required.

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

1. A measuring mechanism for dough-dividers embodying a head having a cylindrical contour, with measuring-chambers extending transversely thereof and arranged in series axially of the head, a segment of said head being removable to give access to the chambers; substantially as described.

2. A measuring mechanism for dough-dividers embodying a cylindrical head formed of separable segments and having measuring-chambers formed by openings extending through the head parallel with the plane of separation of the segments; substantially as described.

3. A measuring mechanism, for dough-dividers embodying a cylindrical head formed of separable segments and having measuring-chambers formed by openings in one of the segments extending through the head parallel with the plane of the separation of the segments, one side of said chambers being formed by the other segment; substantially as described.

4. A measuring mechanism, for dough-dividers embodying a cylindrical head formed of separable segments one of which is provided

with axially-extending journals, and channels extending through the latter segment to form measuring-chambers, one side of said channels being closed by the other segment; substantially as described.

5 A measuring mechanism for dough-dividers embodying a cylindrical head formed of separable segments and having measuring-chambers extending diametrically thereof at one side of but contiguous to the plane of separation of the segments; substantially as described.

6. In a measuring mechanism for dough-dividers, the combination with a rotary cylindrical head formed of separable segments and having diametrically - arranged measuring-chambers therein, of adjustably-connected followers in said chambers and means for limiting the outward movement of each follower; substantially as described.

7. In a measuring mechanism for dough-dividers the combination with a rotary cylindrical head formed of separable segments and having diametrically - arranged measuring-chambers therein, of adjustably-connected followers in said chambers, means for limiting the outward movement of the followers and means for limiting the relative movement of the followers when removed from the chambers; substantially as described.

8. In measuring mechanism for dough-dividers, a pair of followers, adjusting mechanism intermediate the followers and means for

limiting the relative movement of the followers to prevent their disengagement from the adjusting mechanism or rotation with respect to each other; substantially as described. 35

9. In a measuring mechanism for dough-dividers, a pair of followers, adjusting mechanism intermediate the followers and a guide-rod loosely connecting the followers to prevent their disengagement from the adjusting mechanism or rotation independently of each other; substantially as described. 40

10. A measuring mechanism for dough-dividers, embodying a rotary cylindrical head formed of separable segments, with diametrically-arranged measuring-chambers therein, one of said segments carrying shoulders for limiting the outward movement of followers in the chambers and followers in said chambers having projections for coöperating with said shoulders; substantially as described. 45

11. A measuring mechanism for dough-dividers embodying a cylindrical head formed of separable segments, channels constituting measuring-chambers, in one of said segments, and mechanism located in said channels for varying the capacity of the chambers, said mechanism being removable transversely from the chambers when the segments of the head are separated; substantially as described. 55

FRANK H. VAN HOUTEN.

Witnesses:

CLAUDE VAN NOSTRAN,
GEO. W. GOLDSMITH.