

(No Model.)

G. DICK.  
PISTON PACKING.

No. 324,754.

Patented Aug. 18, 1885.

Fig. 1.

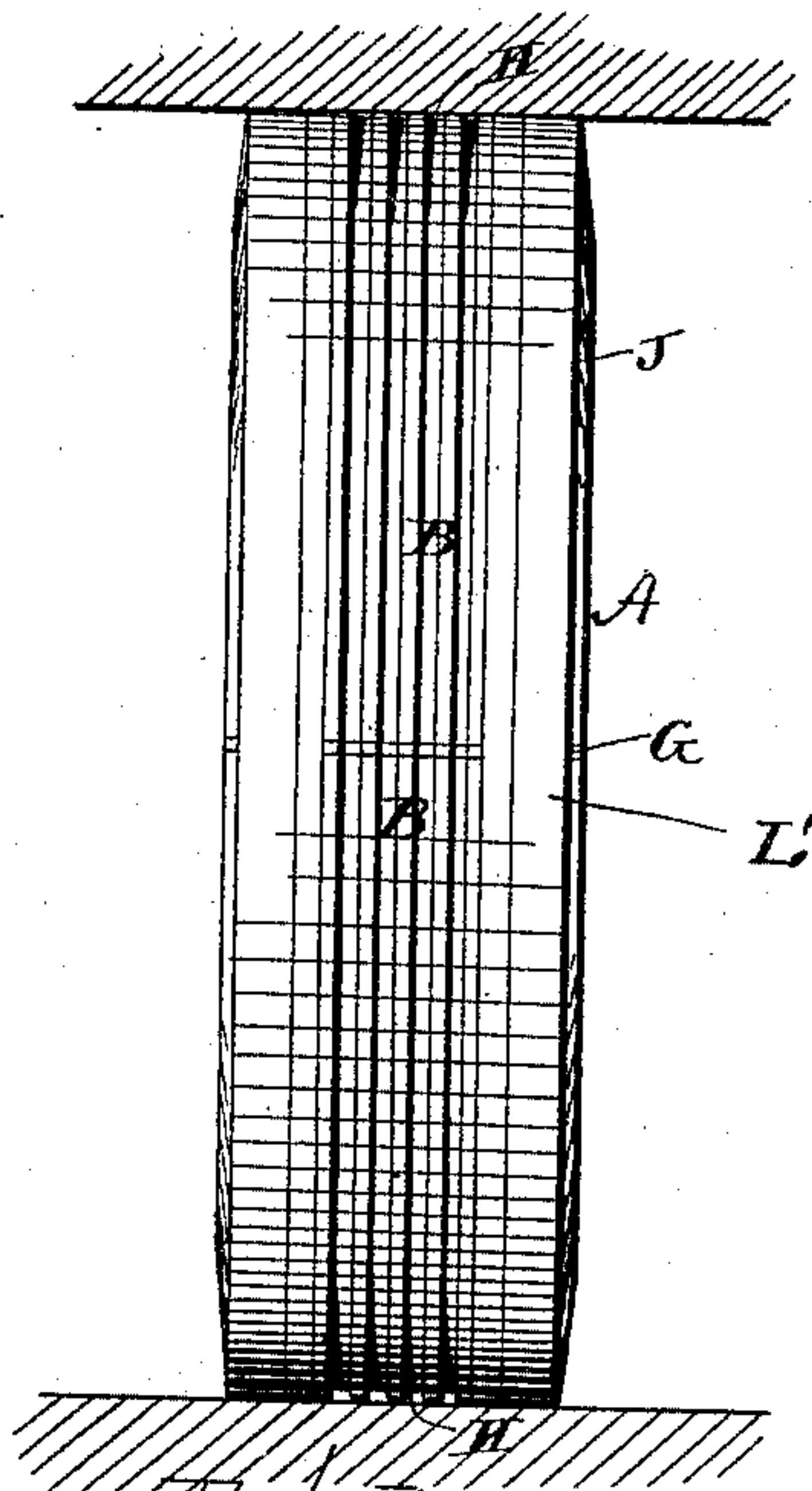


Fig. 2.

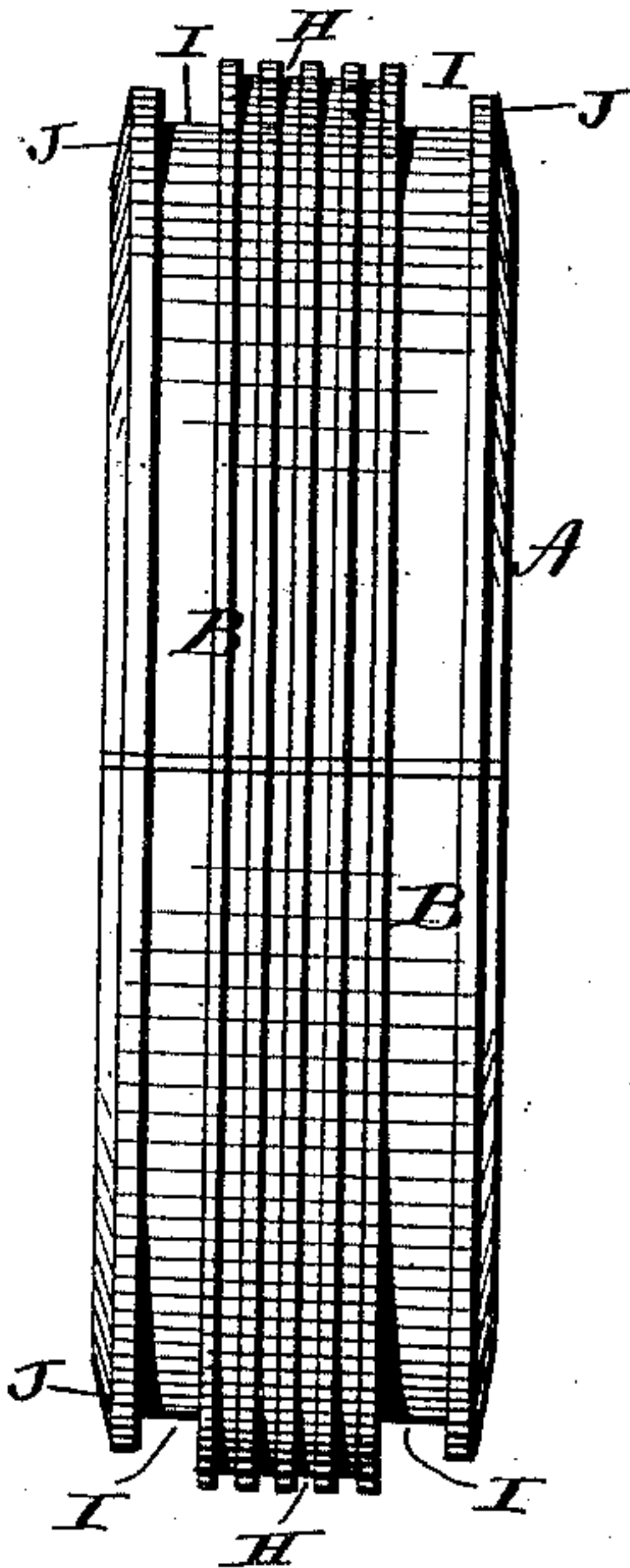


Fig. 5.

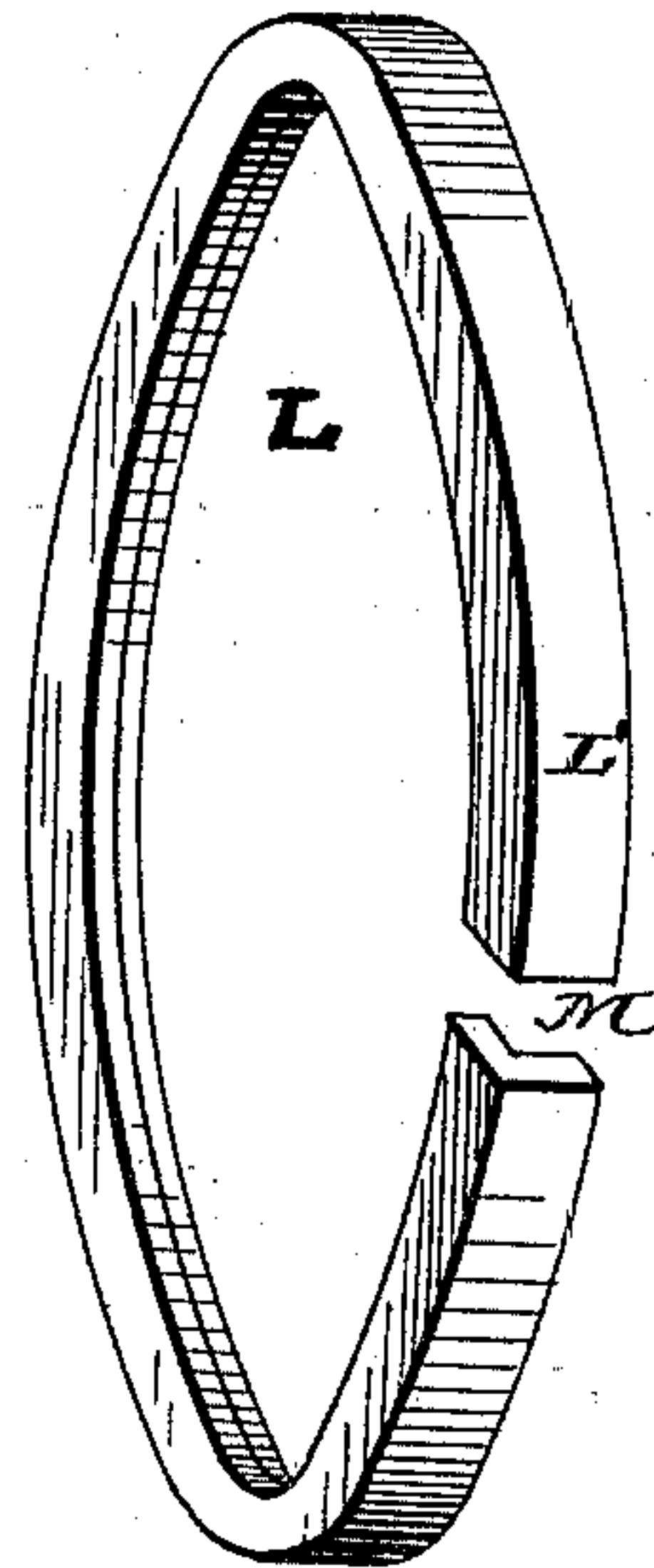


Fig. 3.

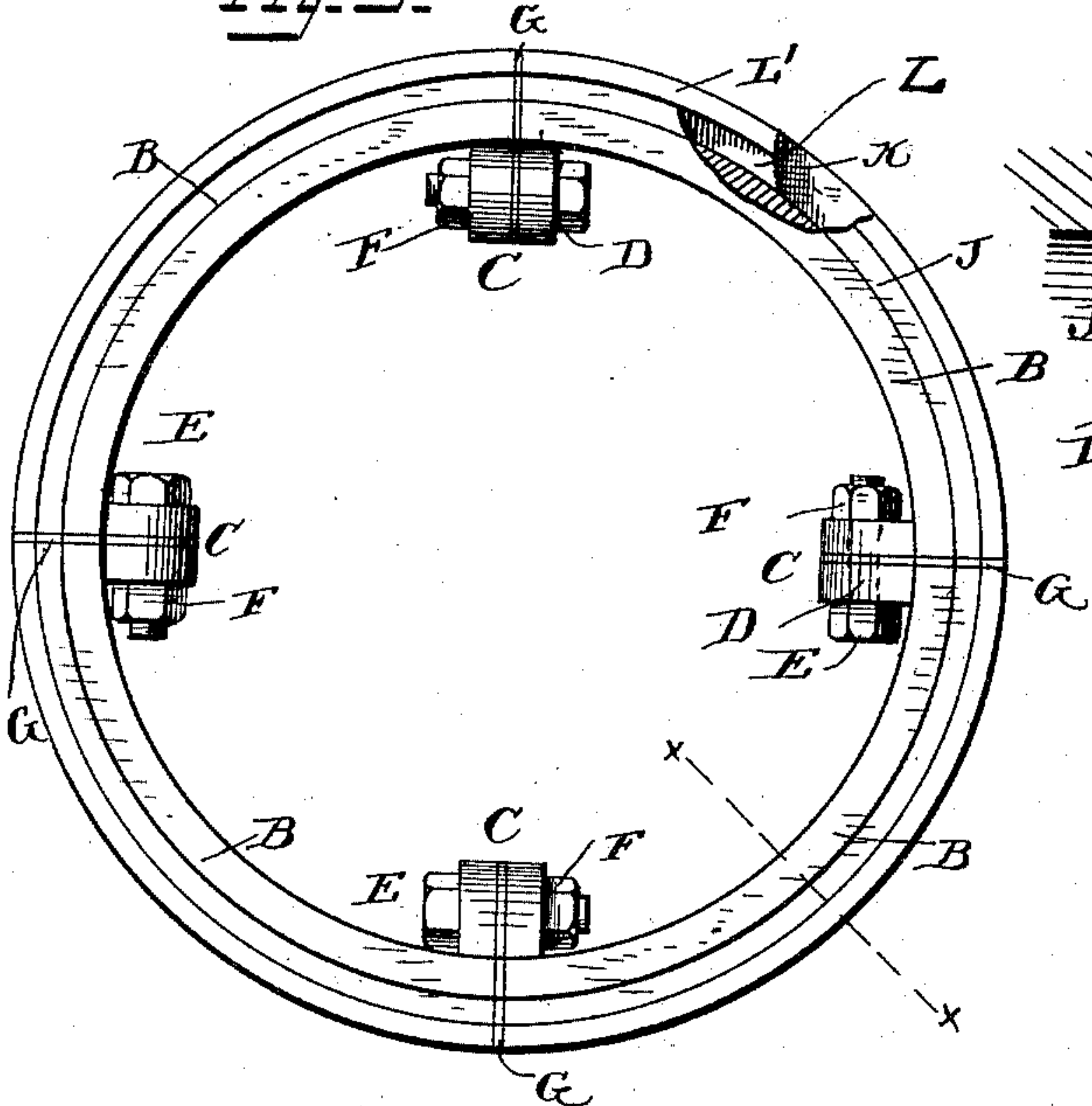
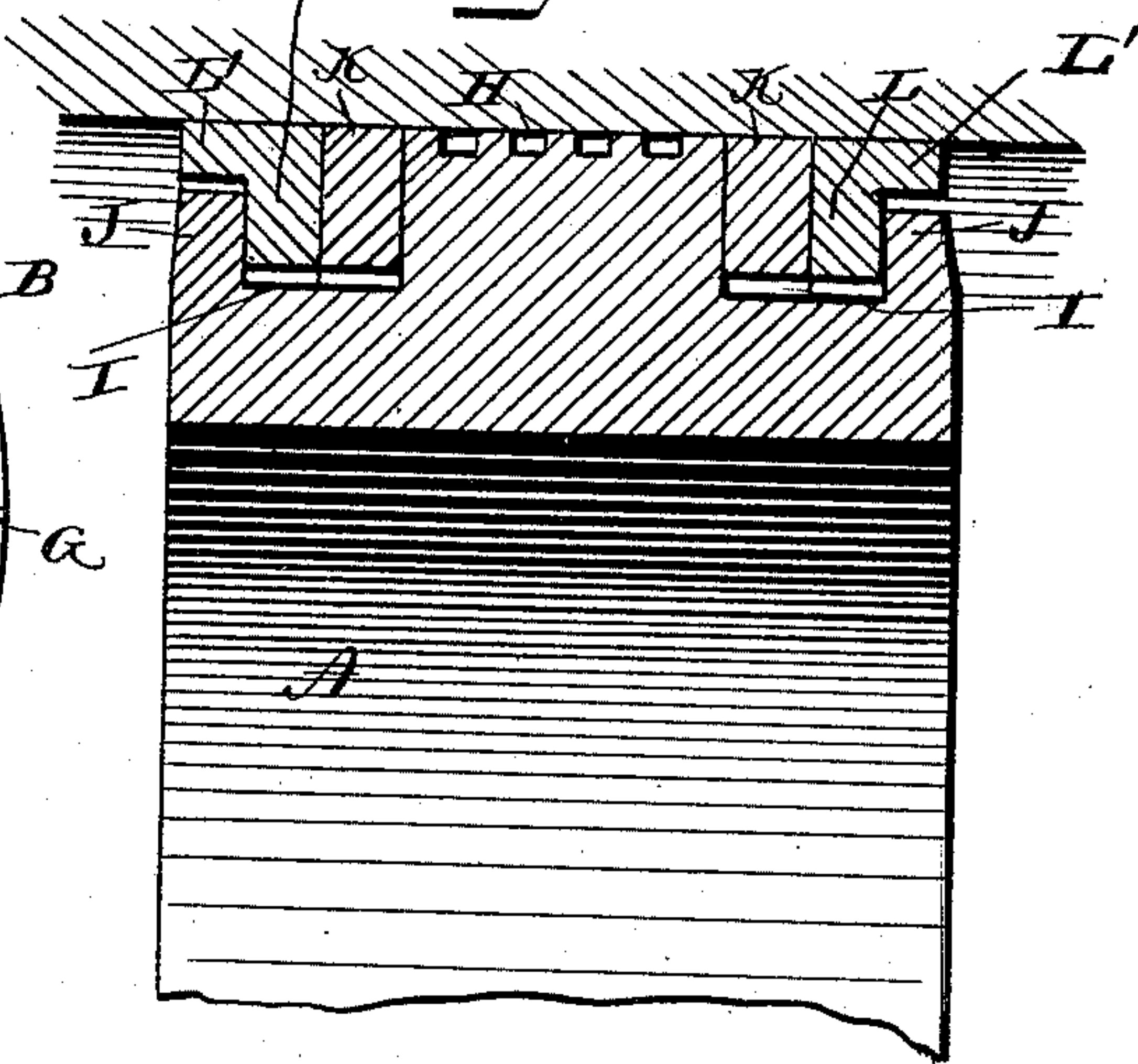


Fig. 4.



WITNESSES  
Fr. L. Ouraud  
Wm. Baggett

INVENTOR  
George Dick,  
by Louis Baggett & Co.  
Attorneys.



# UNITED STATES PATENT OFFICE.

GEORGE DICK, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO  
JOHN EMORY BELL, OF SAME PLACE.

## PISTON-PACKING.

SPECIFICATION forming part of Letters Patent No. 324,754, dated August 18, 1885.

Application filed June 3, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE DICK, a citizen of the United States, and a resident of Baltimore, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Piston-Packings; 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  
10 which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side view of my improved piston-packing for steam-cylinders. Fig. 2 is a side view of the same with the packing-rings removed. Fig. 3 is a front view of the device, with parts broken away in order to show the construction more clearly. Fig. 4 is a vertical cross-section taken on the line *xx* in Fig. 3; and Fig. 5 is a detail view in perspective of one of the segments of my improved piston-packing.

The same letters refer to the same parts in all the figures.

This invention relates to piston-packings for steam-cylinders; and it has for its object to provide a simple, economical, and durable packing which shall be self-adjusting, and  
30 which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A designates the bull-ring of my improved piston-packing, which is composed of a series of segments, B B, the ends of which are provided with inwardly-extending lugs C C, having perforations D D to receive the connecting-bolts E E, having nuts F F, by tightening which the  
45 said segmental sections may be securely connected. Between the ends of the several sections suitable plates or washers, G G, may be interposed, for the purpose of causing the ring to fit neatly and tightly in the cylinder, and  
50 to compensate for wear whenever necessary.

The outer edge or periphery of the bull-

ring is provided with a series of annular grooves, H H, which are for the double purpose of reducing friction during the operation of the device and to cause a more tight and perfect fit of the device in the cylinder by the gradual accumulation of steam in the said grooves. 55

The bull-ring is provided at each end with an annular angular recess, I, having a flange, J, at the outer end thereof. Seated in the inner end of each of these recesses is a plain flat packing-ring, K, which may be rectangular in cross-section, as shown in the drawings hereto annexed, and outside of each of the rings K is  
65 arranged an angular, or, in cross-section, L-shaped, packing-ring, L. The rings K and L are provided with slits M, in order that they may be readily sprung into the recesses in which they are to be seated, and where they are retained securely by means of the flanges J. The packing-rings K and L will fit tightly against the walls of the cylinder, and the slits M of the said rings will break joints, so as to prevent steam from passing by the said rings. 75

When the angular packing-ring L has been sprung into its operative position, its upper outwardly-projecting flange, L', extends over the upwardly-projecting short annular flange J of the bull ring, and the steam, entering the space between the upper flat edge of the flange J and the outwardly-projecting flange L' of the angular ring L, will operate to still further expand the ring L, and thereby cause a more tight and perfect fit of the device in the cylinder, as will be readily understood. 85

The operation and advantages of this invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. 90

The construction is simple and inexpensive. The bull-ring being made in sections, as described, may be much more easily applied to the piston than the solid bull-rings ordinarily used, which latter frequently have to be sawed or parted before they can be adjusted, and afterward joined, unless the piston-rod be disconnected, which, for many reasons, is objectionable. Again, by making the bull-ring in sections, as described, thin plates or washers may be easily interposed between the several sections, so as to compensate for wear, thus 100



rendering the device more durable. The construction and arrangement of parts is such that the wear is evenly distributed, and not, as is often the case, concentrated upon one side of the cylinder, the importance of which is obvious.

By constructing the bull-ring with the short outer annular flanges, J J, and arranging the angular packing-ring L in the manner described, the piston is to a certain extent steam-packed, and a more tight and perfect fit of the piston in the cylinder is effected.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. A bull-ring for piston-packings composed of a series of segmental sections provided at their ends with inwardly-extending lugs having transverse perforations and suitable connecting-bolts, substantially as and for the purpose herein set forth.

2. A bull-ring for piston-packings composed of a series of segmental sections suitably connected together, in combination with thin pieces or washers interposed between the abutting ends of the several sections, substantially as and for the purpose herein set forth.

3. A bull-ring for piston-packings composed of a series of segmental sections suitably connected together, said bull-ring being provided at each end with the annular angular recess

and the short annular flange, in combination with the slotted annular plain or flat packing-ring and the slotted annular angular outer packing-ring, arranged as described, for the purpose set forth.

4. The combination, with the bull-ring provided at each end with an annular recess and a short annular flange, of two packing-rings, the inner plain or flat and the outer L-shaped in cross-section, and arranged as described, for the purpose set forth.

5. As an improvement in piston-packings, the combination of a bull-ring composed of a series of segmental sections provided at their ends with inwardly-extending perforated lugs, suitable bolts connecting the said sections, annular angular recesses at each end of the said bull-ring, flanges formed at the outer ends of the said recesses, and the plain and L-shaped packing-rings having slits, as herein described, said rings being sprung into the recesses at the ends of the bull-ring, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

GEORGE DICK.

Witnesses:

JNO. T. MADDOX,  
J. M. WHERRETT.