

R. SHEARER.
Piston-Rod Packing.

No. 226,558.

Patented April 13, 1880.

Fig. 2.

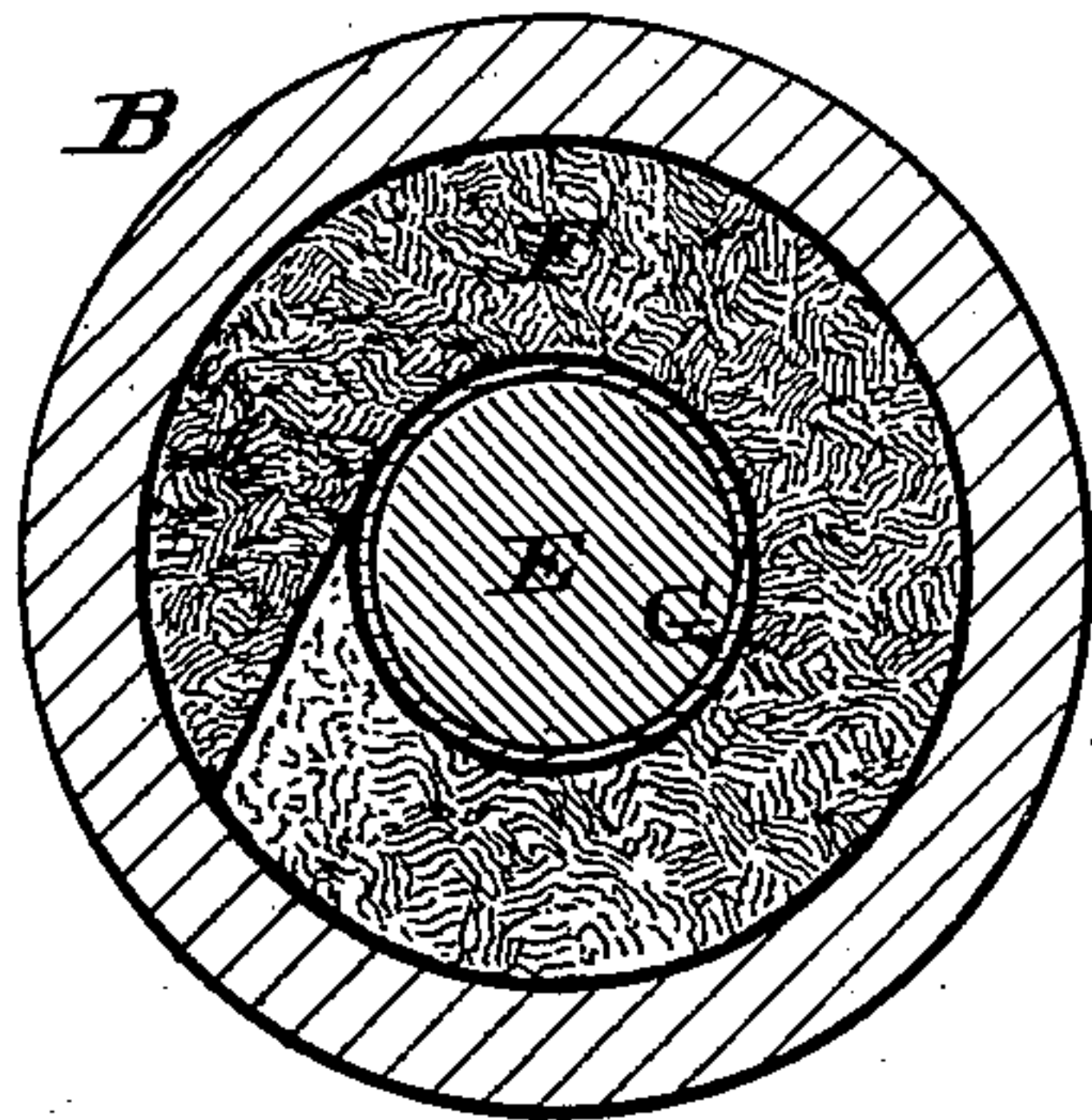


Fig. 1.

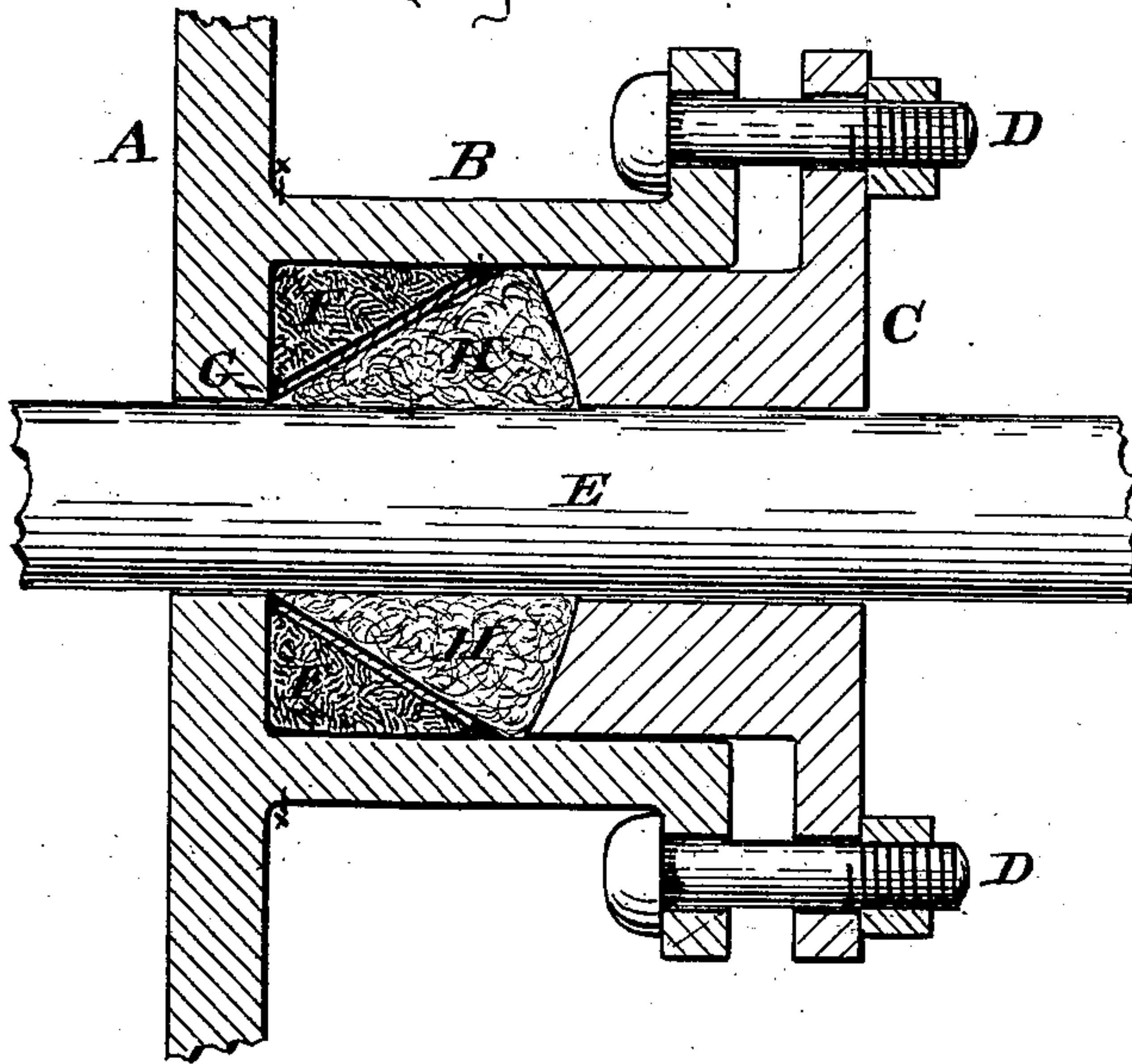


Fig. 3.

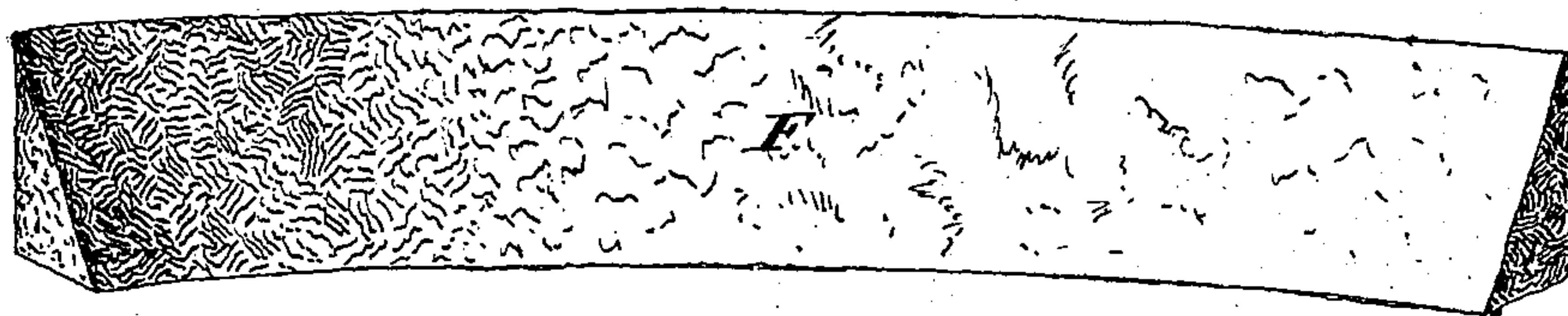
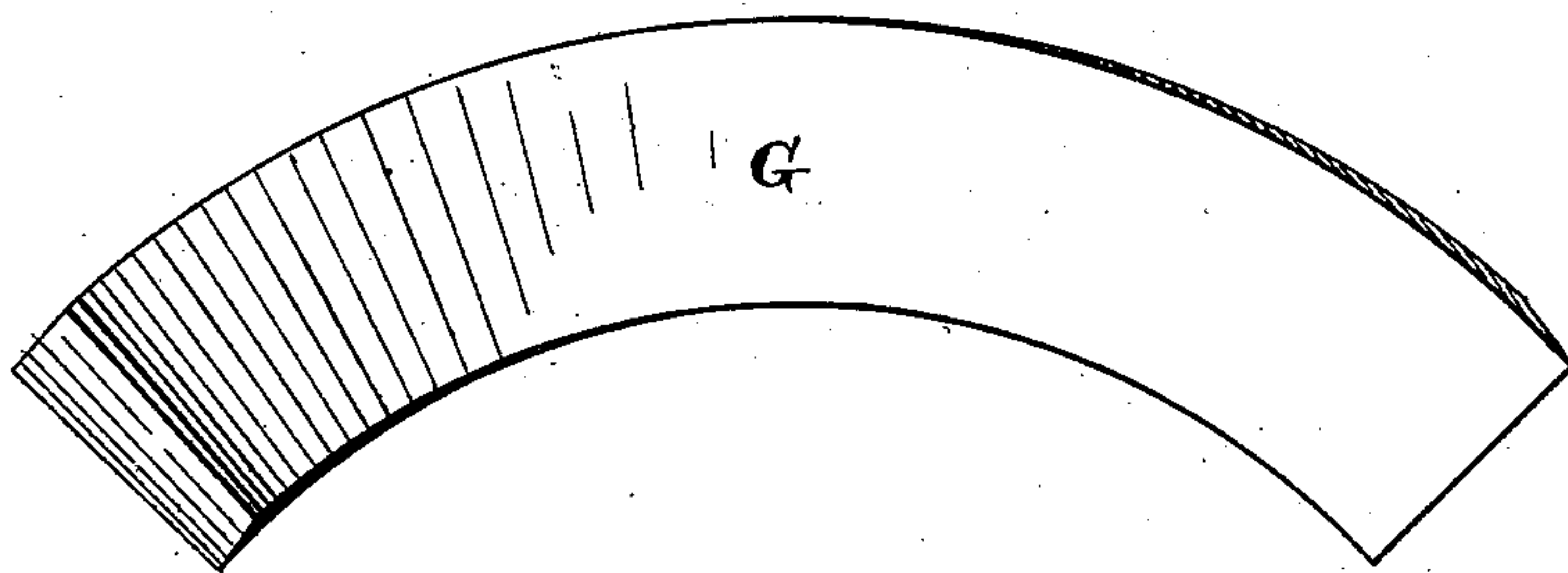


Fig. 4.



Attest.

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UNITED STATES PATENT OFFICE.

ROBERT SHEARER, OF NEW ALBANY, INDIANA.

PISTON-ROD PACKING.

SPECIFICATION forming part of Letters Patent No. 226,558, dated April 13, 1880.

Application filed September 13, 1879.

To all whom it may concern:

Be it known that I, ROBERT SHEARER, of New Albany, Floyd county, Indiana, have invented a new and useful Improvement in
5 Piston-Rod Packing, of which the following is a specification.

My device is designed to be employed as auxiliary to the customary packing of cotton, hemp, or tow confined within the accustomed
10 stuffing-box by means of the ordinary tightening or compacting gland; and my device consists of a wad or backing of india-rubber, formed from a bar or strip of that material, whose transverse section is a right-angled tri-
15 angle. This bar is bent into the shape of a circular ring having its bevel face presented inward, to occupy the back corner of the stuffing-box, and when thus placed to co-operate with the gland to force or wedge the
20 tow or other packing more closely against the piston-rod or other sliding rod with which it is designed to operate. When thus associated the elasticity of the funnel-formed backing becomes auxiliary to that of the packing
25 proper to maintain an equable and enduring pressure upon the rod, and thus prevent leakage.

The metallic facing protects the rubber from wear, and also enables the packing proper to
30 slip more easily rearward under the gland-pressure than it would do if directly in contact with the rubber itself.

For the material of my backing I employ vulcanized rubber, such as customarily used
35 by engine-builders, and preferably form it, in suitable molds or matrices, in long strips of the proper triangular section, which are afterward cut into lengths to fit the specific boxes.

In the accompanying drawings, Figure 1 is
40 an axial section of a stuffing-box provided with my invention. Fig. 2 is a transverse section of the same at the line *xx*. Figs. 3 and 4 are, respectively, detached views of my rubber backing-strip and my sheet-metal facing-
45 plate.

A may represent a portion of a cylinder-head; B, customary stuffing-box; C, customary gland; D its tightening-bolts; E, piston-rod.

50 F represents my rubber backing having the represented triangular section, enabling it to fit and occupy the rear angle of the box, as shown in Fig. 1.

G is a piece of thin sheet-copper or other sheet metal, cut to the proper shape to fit the
55 hollow conical surface of the inserted backing, and having its exposed surface smooth or polished in order that the packing proper, H, may slide easily rearward in obedience to the pressure of the compacting-gland. 60

While the surface presented to the packing proper is sufficiently firm to maintain the funnel shape necessary to produce the desired crowd-
ing action upon the packing, the backing and its thin metallic facing-plate are, at the same
65 time, sufficiently elastic to aid the elasticity of the packing proper in preserving a substantially-uniform pressure upon all parts of the rod brought in contact with said packing proper. 70

The essential feature of my improvement is the funnel-formed rubber backing employed with a smooth and flexible metallic facing for use with any ordinary or suitable stuffing-box gland and means of tightening the latter. 75

I am aware that it has been proposed to use for the packing proper an annular roll of canvas saturated with india-rubber, such roll to be seated upon a conical, but necessarily inelastic, slope of the box-wall. I there-
80 fore disclaim novelty in the use of rubber, except in the mode and manner employed by me—namely, not as the packing proper, but as an elastic backing to the ordinary cotton, hemp, or other customary or suitable packing
85 material employed.

I am also aware that it has been proposed to employ sheet-metal lining for stuffing-box packing, but always, so far as known to me, for direct contact with the rod, and not for a
90 portion of the backing, as in my improvement.

I claim as new and of my invention—

As a new article of manufacture, the described funnel-formed backing-ring F, of india-
95 rubber, having thin metal facing G, inclosing the soft packing proper, H, and associated with the box B, gland C, and compressing means D, substantially as and for the purpose set forth. 100

In testimony of which invention I hereunto set my hand.

ROBERT SHEARER.

Attest:

GEO. H. KNIGHT,
JAS. V. KELSO.