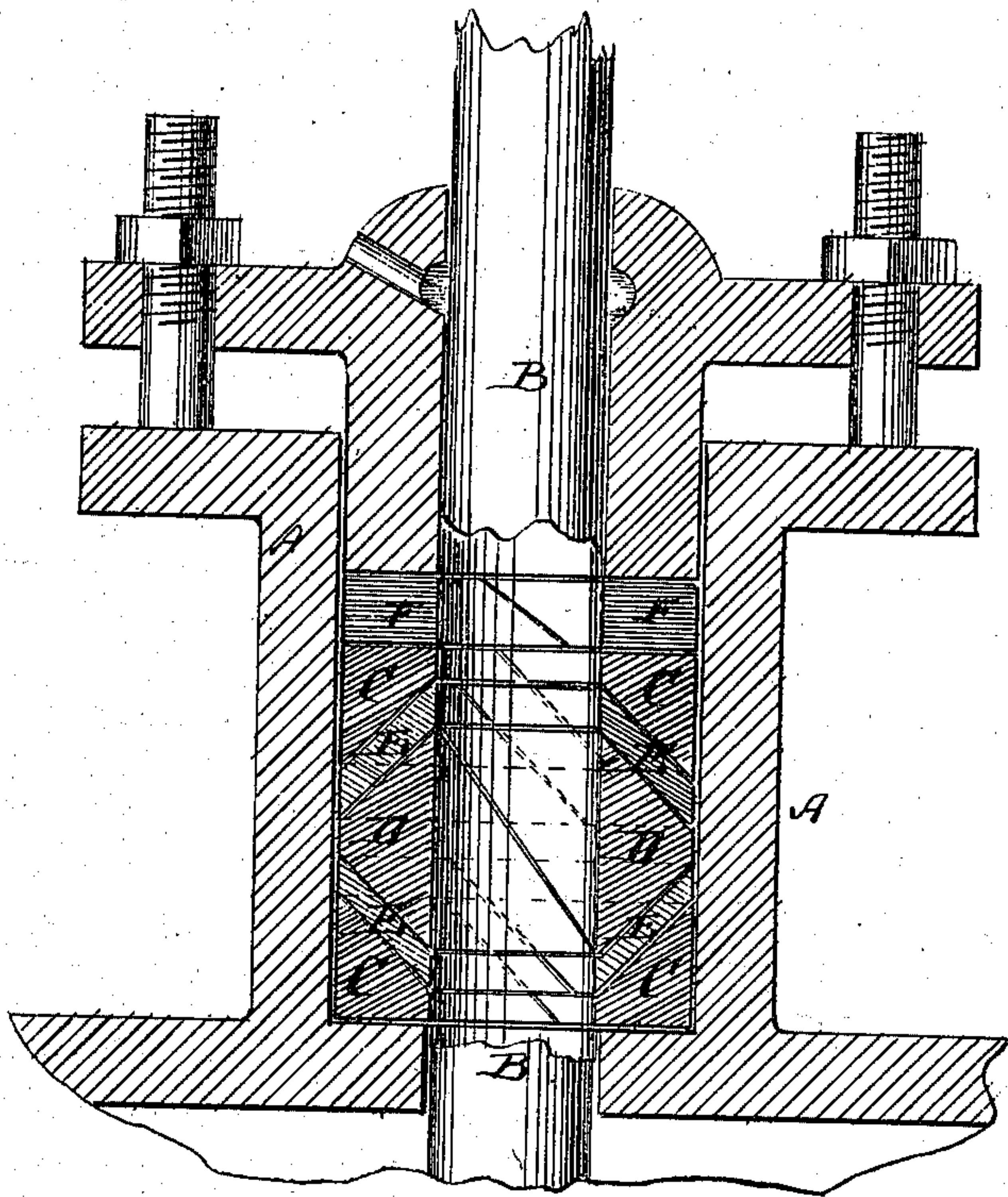


L. KATZENSTEIN.  
PACKING.

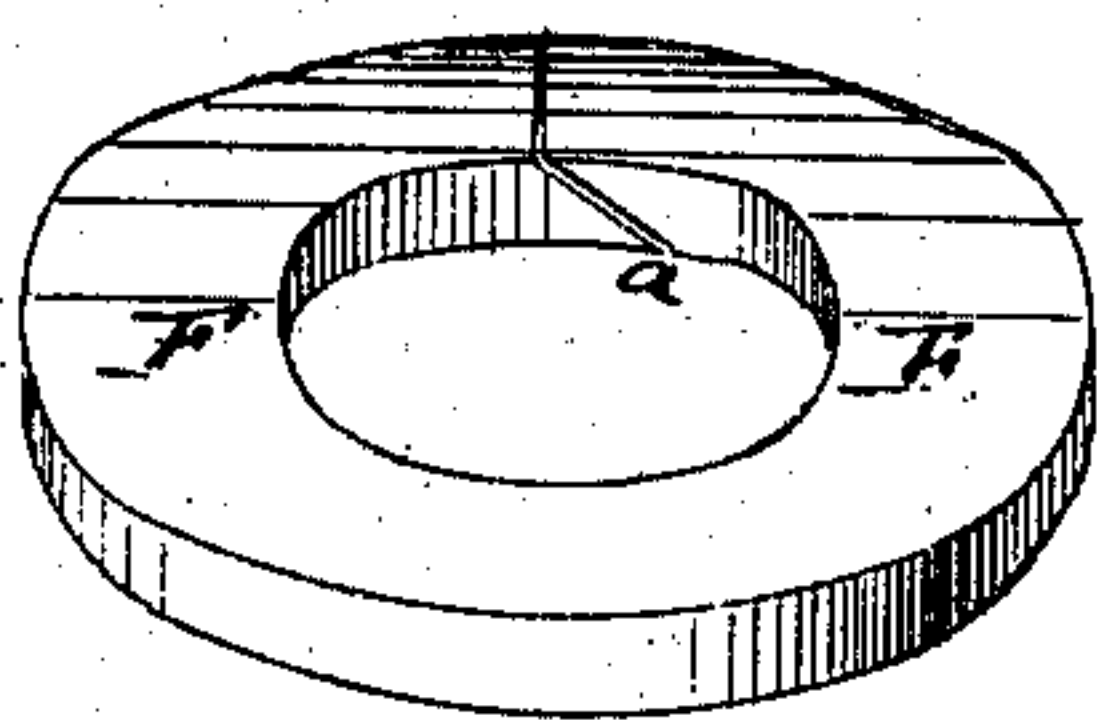
No 105,462.

Patented July 19, 1870.

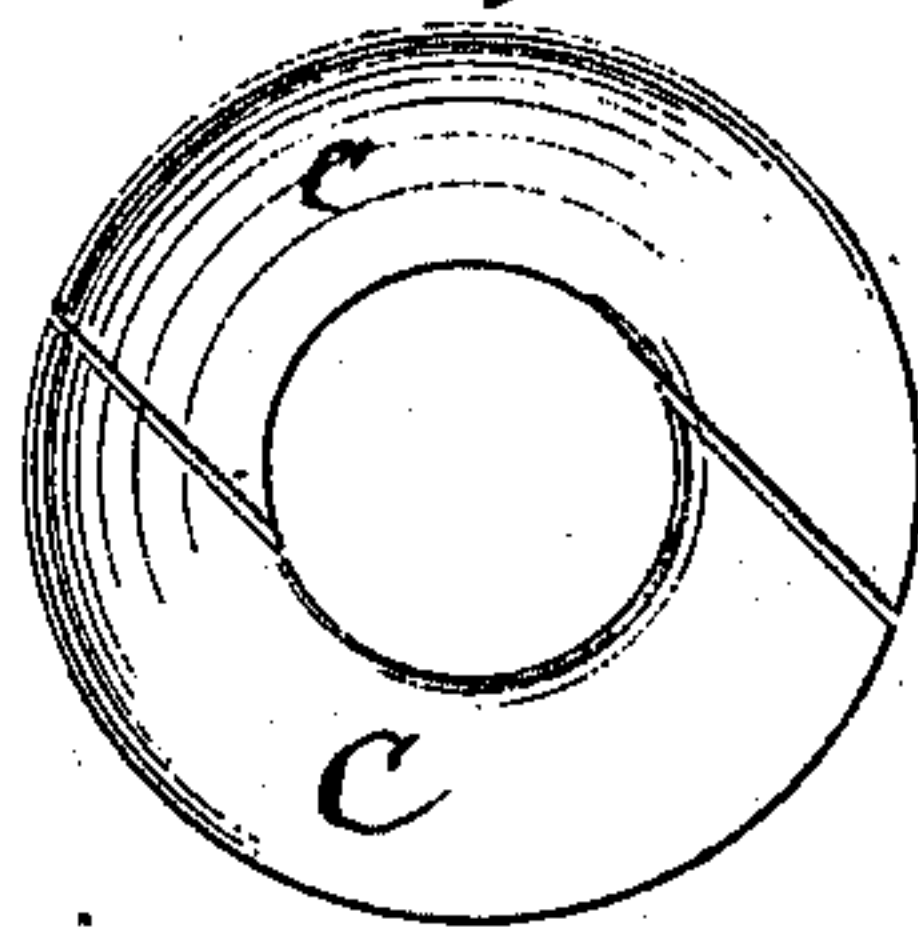
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:

*L. S. Mabey*  
*D. M. Mace*

Inventor:

*L. Katzenstein*

PER

*M. M. Mace*  
Attorneys.

# United States Patent Office.

LEOPOLD KATZENSTEIN, OF NEW YORK, N. Y.

Letters Patent No. 105,462, dated July 19, 1870.

## IMPROVEMENT IN PACKING.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, LEOPOLD KATZENSTEIN, of the city of New York, in the county and State of New York, have invented a new and improved Steam-Packing for Piston-Rods, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

My invention relates to packing for piston-rods, and consists in certain improvements thereon, which will be first described in connection with other parts necessary to the clear understanding thereof, and then clearly pointed out in the claim.

Figure 1 is a vertical section, and

Figures 2 and 3, respectively, views of the tops of the elastic plate, and the top and bottom packing-plates.

A represents the packing-box, and  
B, the piston-rod.

D is the central packing-piece, formed conically, or with two opposite inclined annular faces.

E E are two plates, which fit respectively over the upper and lower faces of D.

C C are plates, which fit over the exterior faces of plates E E, but are flat on top.

F is the spring or elastic plate, which rests upon the packing plates, and receives direct pressure.

The latter plate is cut obliquely, to admit of its more ready expansion, while the shape of the incision renders it impossible that the lips formed can ever be drawn out of contact.

The plates C C E are cut, and, preferably, in two places upon opposite sides, so that they will be more uniformly moved outwardly, as they are pressed over the conical faces of the central ring D.

This double conical ring is also cut in like manner with C and E, except that a slight shaving may be taken off one or both of the incised faces of the lips, to enable the ring to close around the piston more thoroughly.

The mode of operation is as follows:

The vertical pressure upon the flat spring F causes it to expand laterally toward both the case and the piston-rod, and the power brought to bear upon the plates C E tends to force them outwardly, as if forced over a tapering mandrel, while the ring D, being pressed externally on both its inclined faces, will be compelled to hug the piston-rod closely.

The several plates may be so arranged in the case as to break joint.

It will be perceived that, in fig. 1 of drawing, the piston-rod is broken away opposite to the rings in order to expose the diagonal lines, which represent cuts in the rings.

Having thus described my invention,

What I claim as new, and desire to protect by Letters Patent, is—

The spring F, packing-plates C E, and central ring D, all cut, shaped, and adjusted together, substantially as and for the purpose specified.

LEOPOLD KATZENSTEIN.

Witnesses:

A. V. BRIESEN,  
GEO. W. MABEE.