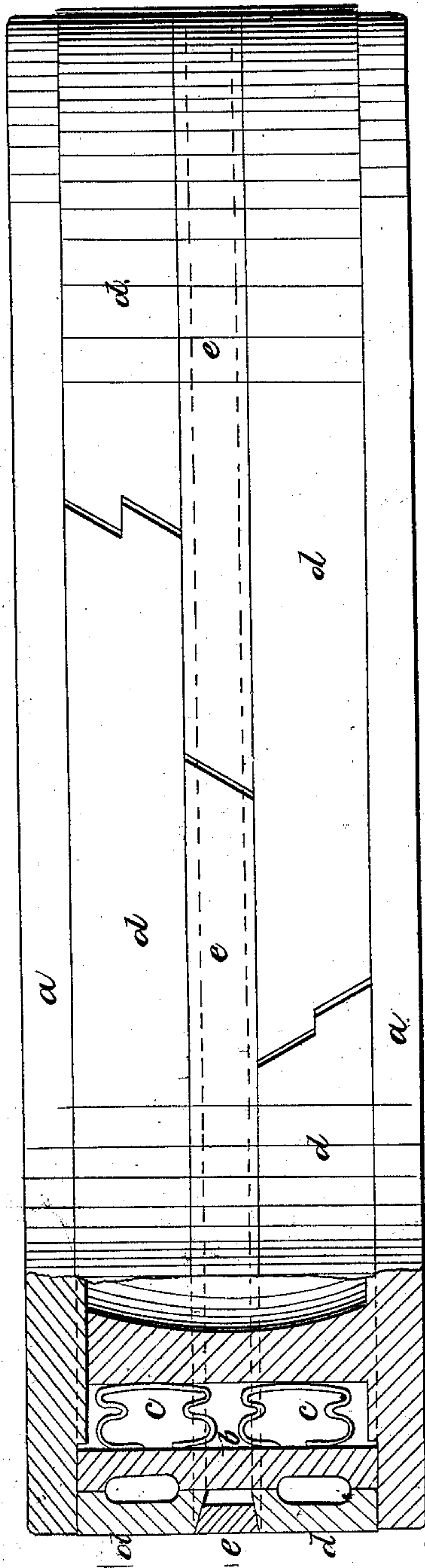


J. F. Bogardus.

Piston Packing.

N^o 57,037.

Patented Aug. 7, 1866.



Witnesses:
Chas. H. Smith
Geo. A. Walker.

Inventor:
John F. Bogardus

UNITED STATES PATENT OFFICE.

JOHN F. BOGARDUS, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF,
JOS. ANDERSON, AND THOS. K. SCHERMERHORN, OF SAME PLACE.

IMPROVEMENT IN PACKING-RINGS FOR PISTONS OF STEAM-ENGINES.

Specification forming part of Letters Patent No. 57,037, dated August 7, 1866.

To all whom it may concern:

Be it known that I, JOHN F. BOGARDUS, of Brooklyn, in the county of Kings and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Packings for Pistons; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, making part of this specification, wherein I have represented a side view of a piston and packing-rings, with a portion of said rings removed to show them sectionally at one side of the piston.

The packing-rings of pistons are liable to become loose from the compression of the followers against the edges of said rings. The result is that the packing-rings do not commence to move at the same instant as the piston, and there is a concussion that tends to increase the space between the said ring and followers, allowing the steam to pass into the packing.

My invention has for its object the prevention of the said looseness in the packing-rings, so that they will remain tight, even when worn away considerably.

My said invention consists in an intermediate packing-ring with inclined edges, and not as thick as the ordinary packing-rings which there are on each side of it, so that said intermediate ring will not be pressed out by the action of the springs behind the piston-ring, and will not wear away as rapidly as the other rings, and hence its inclined edges will cause the adjacent rings, as they expand as worn away, to press laterally against the piston-followers, and remain tight and in contact even when the rings are considerably worn away.

In the drawing, *a a* are the followers or flanges of the piston, between which is the main ring *b*, with suitable springs behind it, at *c*, as usual. *d d* are the main packing-rings, and *e* is the intermediate ring, the face of which is wider than the back, so that its edges are inclined, and the edges of the rings *d d* are inclined in a corresponding manner. The rings *d d* are to be split or cut in the manner shown, so that steam will not pass through the separations, and the ring *e* is not as thick as the rings *d d*, and should be slightly contractile instead of expansive, so that its inclined edges tend to force the rings *d d* against the followers *a a*, and, in consequence of the back of the ring not coming into contact with the main ring *b*, there will be no friction or wear except that resulting from the contact of the rings *d d* with its edges, and these, being inclined, press said rings *d d* apart, keeping them always in contact with the followers or flanges *a a*, and hence always steam-tight.

What I claim, and desire to secure by Letters Patent, is—

The arrangement of the packing-rings *d d* and *e*, with the edges that come in contact inclined, and the ring *e*, narrower at the back than on the face, and not so thick as the rings *d d*, so that the ring *b* and springs *c c* shall only act to expand the ring *e* by the contact of the rings *d d* with its inclined edges, for the purposes set forth.

In witness whereof I have hereunto set my signature this 2d day of April, A. D. 1866.

JOHN F. BOGARDUS.

Witnesses:

GEO. D. WALKER,
CHAS. H. SMITH.