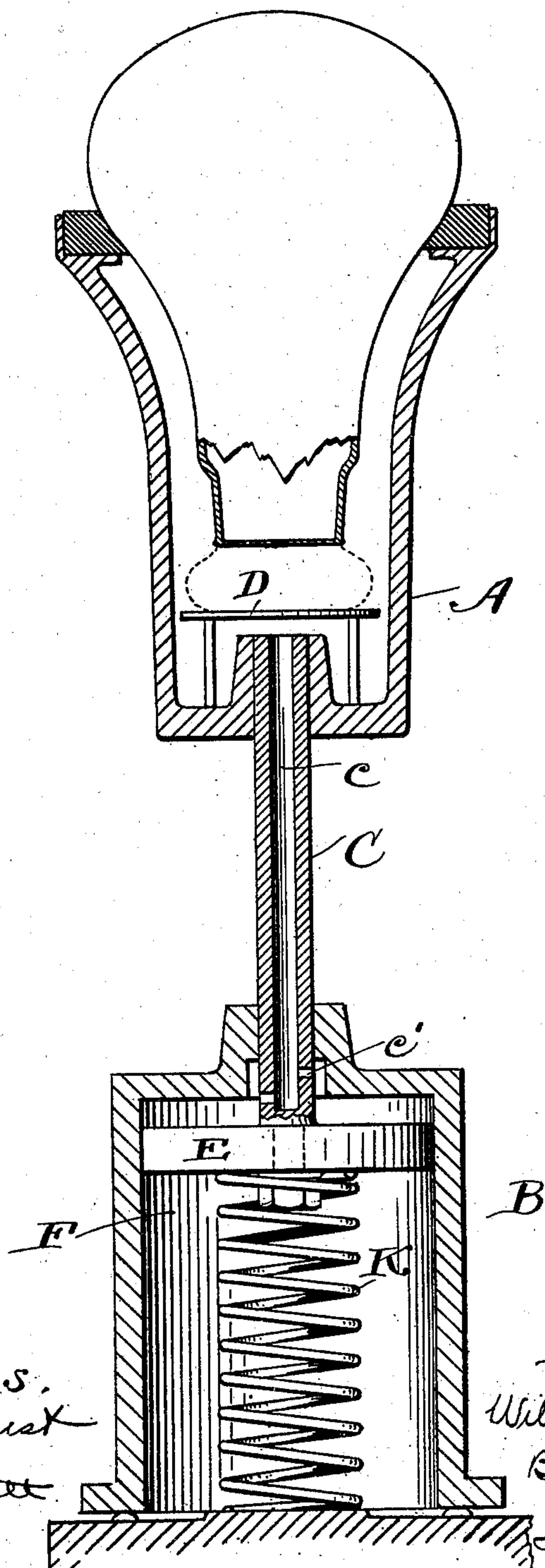


No. 741,822.

PATENTED OCT. 20, 1903.

W. N. PACKER.
BLOW-OFF FOR INCANDESCENT LAMP BULBS.
APPLICATION FILED DEC. 22, 1902.

NO MODEL.



Witnesses.
E. B. Gilchrist
B. W. Brockitt

Inventor
Willard N. Parker
By his attorneys
Thurston & Bates

UNITED STATES PATENT OFFICE.

WILLARD N. PACKER, OF SHELBY, OHIO, ASSIGNOR TO E. L. THURSTON,
TRUSTEE, OF CLEVELAND, OHIO.

BLOW-OFF FOR INCANDESCENT-LAMP BULBS.

SPECIFICATION forming part of Letters Patent No. 741,822, dated October 20, 1903.

Application filed December 22, 1902. Serial No. 136,104. (No model.)

To all whom it may concern:

Be it known that I, WILLARD N. PACKER, a citizen of the United States, residing at Shelby, in the county of Richland and State of Ohio, have invented a certain new and useful Improvement in Blow-Offs for Incandescent-Lamp Bulbs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing.

As incandescent-lamp bulbs are manufactured they come from the glass-blower with long necks, of which the greater part must be removed before the filaments can be sealed in and the lamps completed. The surplus part of the neck is removed by heating and softening the glass in the proper plane and then pulling off the end of the neck below this softened part. In this operation the end of the neck automatically closes up and seals itself, the drawing showing substantially the form which the neck of the bulb has when this operation is completed. Clearly the end of the neck must be opened before the filament can be inserted.

The object of the present invention is to effect this result quickly without danger of breaking the bulb.

The invention may be here summarized as consisting in the construction and combination of parts hereinafter described, and definitely pointed out in the claims.

In the drawing the figure is a central vertical section of a device embodying my invention in its best form.

A chambered support A is connected suitably with an air-pump B, and the open upper end of this support has a rubber gasket which fits air-tightly around the enlarged part of a globe, whose reduced end is inserted into the chamber. It is so inserted while the end of the neck is still hot and plastic as it comes from that operation referred to which closes the neck, and thereupon the air-pump is operated, exhausting the air from the chamber around the bulb, creating therein a partial vacuum, whereupon the internal pressure within the bulb blows this plastic end of the neck outward, forming a very fragile bulb on its end, which when the bulb is removed may

be tapped lightly and broken off. There is between the passage *c* from this chambered support to the air-pump and the plastic lower end of the lamp-bulb a baffle-plate D, which prevents a direct flow of air into the passage, which might merely elongate the neck without making it sensibly more fragile, in which case if this were broken one might also break the lamp-bulb. In the construction shown this chambered receptacle is secured to the upper end of a hollow piston-rod C, whose lower end is connected with the piston E, fitted within the air-cylinder F, which is open to the atmosphere below the piston. Normally this piston is held in the upper end of the cylinder by a spring K. The hole *c* in the piston-rod not only opens into the support A, but there is a hole or holes *c'* through the side of the piston-rod for establishing communication between the hole *c* and the upper closed end of the cylinder.

The operation consists in taking the lamp with its closed but hot and plastic neck and putting it into this chambered holder and then pressing down upon the lamp-bulb, thereby moving the piston down in the cylinder. This produces two results. It makes the air-tight joint between the lamp-bulb and the rubber gasket, and it also forces the piston down in the cylinder, whereby the partial exhaustion of air from the chamber is effected, with the result stated. This operation is technically called "blowing off the bulbs."

Having described my invention, I claim—

1. In a machine for blowing off incandescent-lamp bulbs, the combination of a chambered support having around its upper edge a rubber gasket adapted to fit air-tightly around the lamp-bulb, with an air-pump, a tube connecting the lower part of this support with said air-pump, and a baffle-plate in the chambered support over the end of said tube, substantially as specified.

2. In a machine for blowing off incandescent-lamp bulbs, the combination of a chambered support having around its upper edge a rubber gasket adapted to fit air-tightly around the lamp-bulb, an air-pump cylinder, a piston movably fitted therein, a tubular pis-

ton-rod connected with the lower end of said support and communicating with the interior thereof, said tubular piston-rod being also in communication with the interior of the cylinder, and a spring for moving the piston upward in said cylinder, substantially as specified.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

WILLARD N. PACKER.

Witnesses:

E. B. GILCHRIST,
E. L. THURSTON.