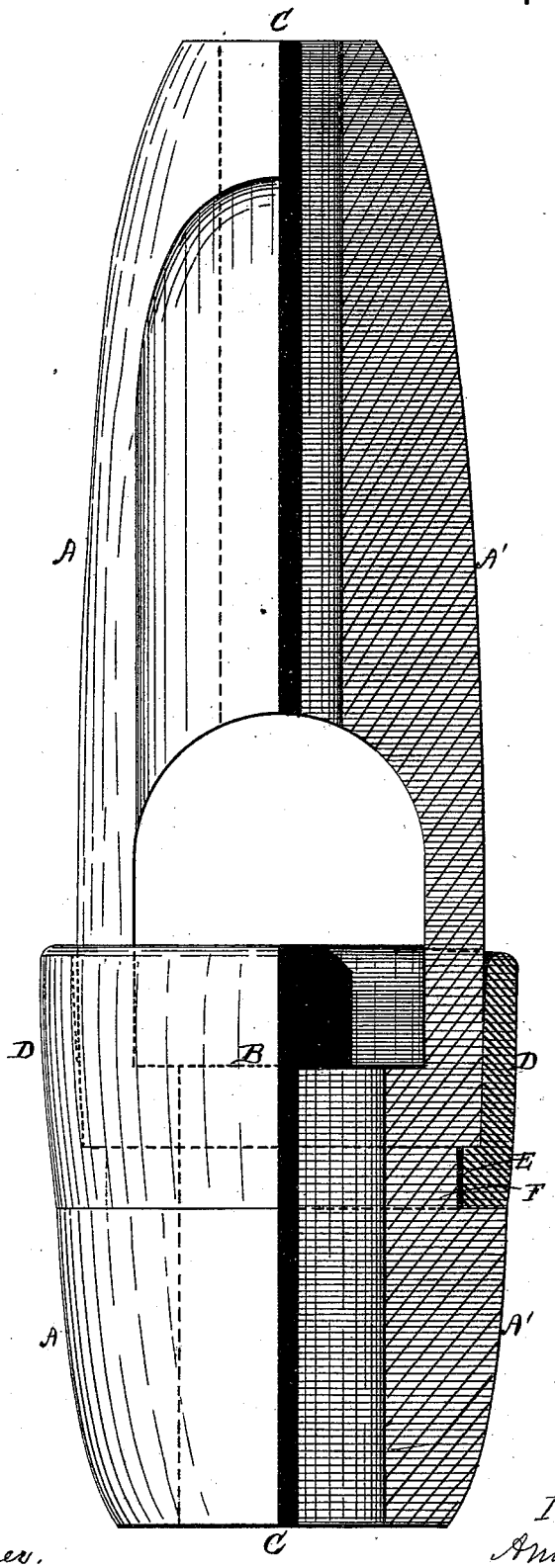
A. A. LAMB.
Pump-Plunger.

No. 208,404. Patented Sept. 24, 1878.



Witnesses.
L. H. Latimer.
A. Hogan.

Inventor.
Amos A. Lamb.
by L. D. Adams Atty.

UNITED STATES PATENT OFFICE.

AMOS A. LAMB, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO FREDERIC M. SHERMAN, OF NEW LONDON, CONNECTICUT.

IMPROVEMENT IN PUMP-PLUNGERS.

Specification forming part of Letters Patent No. **208,404**, dated September 24, 1878; application filed February 25, 1878.

To all whom it may concern:

Be it known that I, AMOS A. LAMB, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Pump-Plunger, of which the following is a specification:

My invention relates to an improvement in the packing of a pump-plunger piston; and the invention consists of a packing, composed of india-rubber or any of its compounds, of peculiar construction, for application to an ordinary wooden plunger.

The accompanying drawing is a representation of a pump-plunger embodying my invention, the same being an elevation, with one-half vertically shown in section.

A A′ represent the pump-plunger, made from a single block, in the usual manner. B represents the position of the valve, and C C is the central vertical opening through the plunger. D represents the packing, which is composed of a ring of india-rubber or its compounds, about one-quarter of an inch in thickness for a greater portion of its width, and its lower end having an internal projection, E, as shown, which projection is made to fit within a recess, F, formed in the plunger and extending entirely around the same. The packing D is made a little flaring from the lower end upward, and the inner upper edge sets off a little from the surface of the plunger, so as to insure a uniform bearing against the bore of the pump.

In fitting the packing to the plunger it is drawn over the top of the latter and forced down until the projection E drops into the recess F in the plunger, where it is securely held without the necessity of any other fastening. The portion of the plunger below the recess F is made larger than that above, and the thickness of packing at D is so graduated that its outer surface shall extend for the greater portion of its length beyond the outer surface of the lower section of the plunger, thus causing the packing to be compressed within the pump-barrel. The upper flaring mouth, rounded off, as shown, together with the lower tapering formation of the packing, permits the plunger to move up and down in the barrel without buckling therein, which is the principal objection to those forms of packing having a square cut at either extremity.

The ordinary plunger-packing is made of leather, which extends around the plunger, and is secured to the same by means of tacks or nails, the ends of the leather meeting or overlapping each other. With my improved packing the ring is unbroken, and the plunger is moved up and down with great ease and steadiness.

I am aware that packing-rings for plungers have been made of india-rubber. This I do not claim, broadly; but

What I claim as my invention is—

The packing-ring D, constructed with the flaring upper end, rounded off, as explained, and the square inwardly-projecting portion E at the lower end, the outer surface of which is tapering, and its lowermost edge located in line with the enlarged portion A′, in combination with the plunger A A′, provided with the corresponding recess F, all constructed and operating as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AMOS A. LAMB.

Witnesses:
J. H. ADAMS,
P. HORGAN.