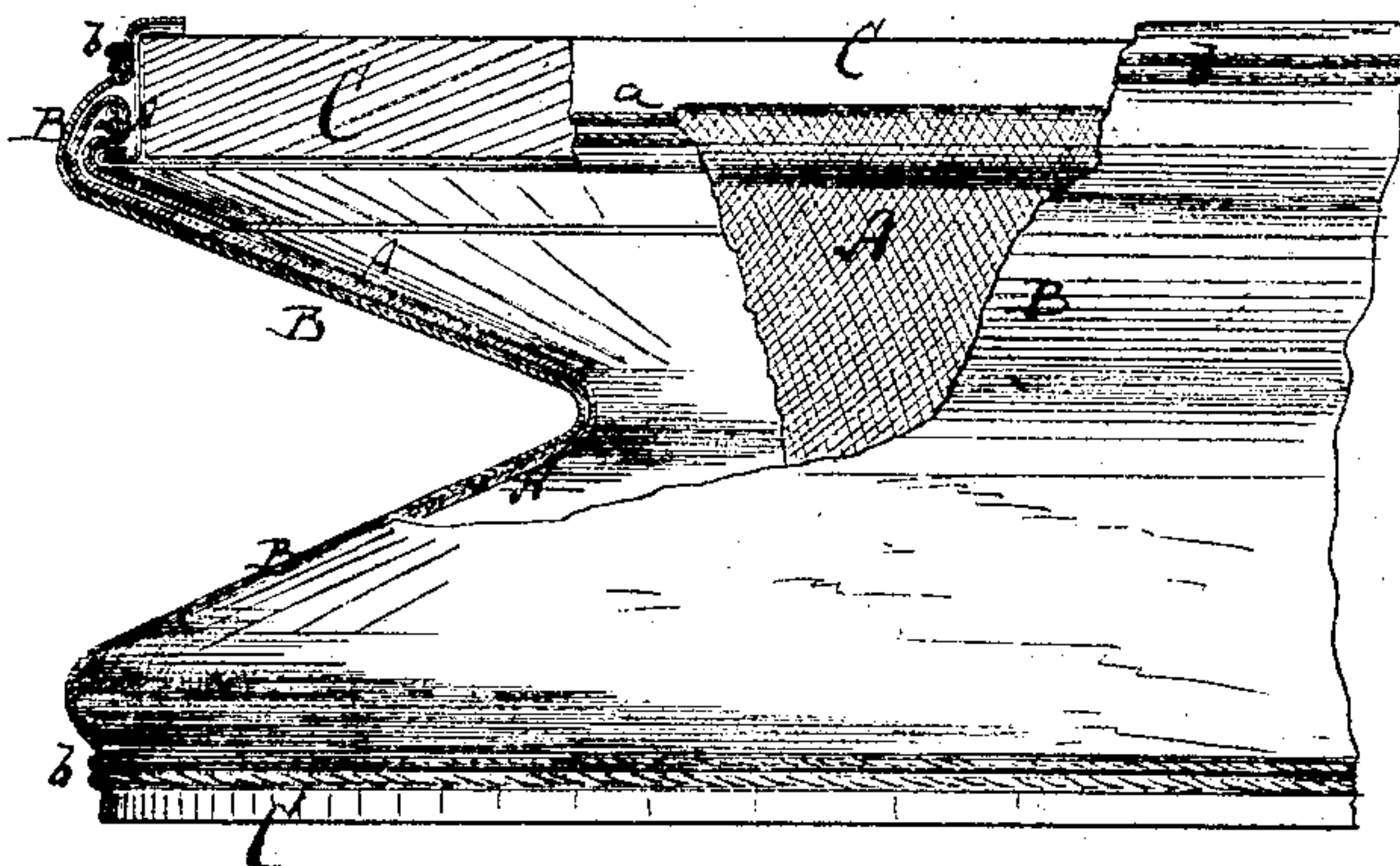


A. F. JONES.

Flexible Sides for Bellows.

No. 126,214.

Patented April 30, 1872.



Witnesses:

*Chas. Nield.*  
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PER

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## UNITED STATES PATENT OFFICE.

ALFRED F. JONES, OF NEW YORK, N. Y.

## IMPROVEMENT IN FLEXIBLE SIDES FOR BELLOWS.

Specification forming part of Letters Patent No. 126,214, dated April 30, 1872.

*To all whom it may concern:*

Be it known that I, ALFRED F. JONES, of New York city, in the county and State of New York, have invented new and Improved Flexible Sides for Bellows, Air-Pumps, &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.

The drawing represents a vertical section of a bellows having the improved flexible sides.

This invention relates to a new construction of the flexible sides of bellows, air-pumps, and similar apparatus, which is to be contracted and expanded; and consists in the combination of a woven or porous fabric for strength, with an outer rubber fabric which is impervious to air. The two fabrics are not intimately connected, except, perhaps, at the edges, and the impervious material will, therefore, not be strained, the other fabric taking all strain. Heretofore such flexible sides were made of single fabrics, which, under strain, would open their pores and let air in, thereby defeating the object of the entire instrument. By the use of the double fabric absolute air-tight sides can be obtained.

A in the drawing represents the inner fabric

for the flexible side of an air-pump. B is the outer fabric. The inner fabric, which is woven or otherwise made to be strong, is, by wire or cord *a*, securely fastened to the sides of the heads or end plates C C of the pump, substantially as indicated in the drawing. The outer fabric B, which is made of India rubber or equivalent air-tight material, is, by strong gum or glue, with or without the use of string *b*, also fastened to the edges of the plates C, to cover the fastening of the fabric A, as shown. The fabric B should be sufficiently long to be free from strain, which is entirely taken up by the strong fabric A, so that pores will never be formed in B. The two requisites—strength and imperviousness to air—are thus obtained without conflicting with each other.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

As an improvement in bellows, the external and air-tight integument B, when combined with a strong internal fabric, A, arranged as described, to prevent the former from being strained and becoming non-exclusive of air.

ALFRED F. JONES.

Witnesses:

GEO. W. MABEE,  
T. B. MOSHER.