

Boeklen & Planer,

Bellows,

N^o 38,880.

Patented June 16, 1863.

Fig. 3.

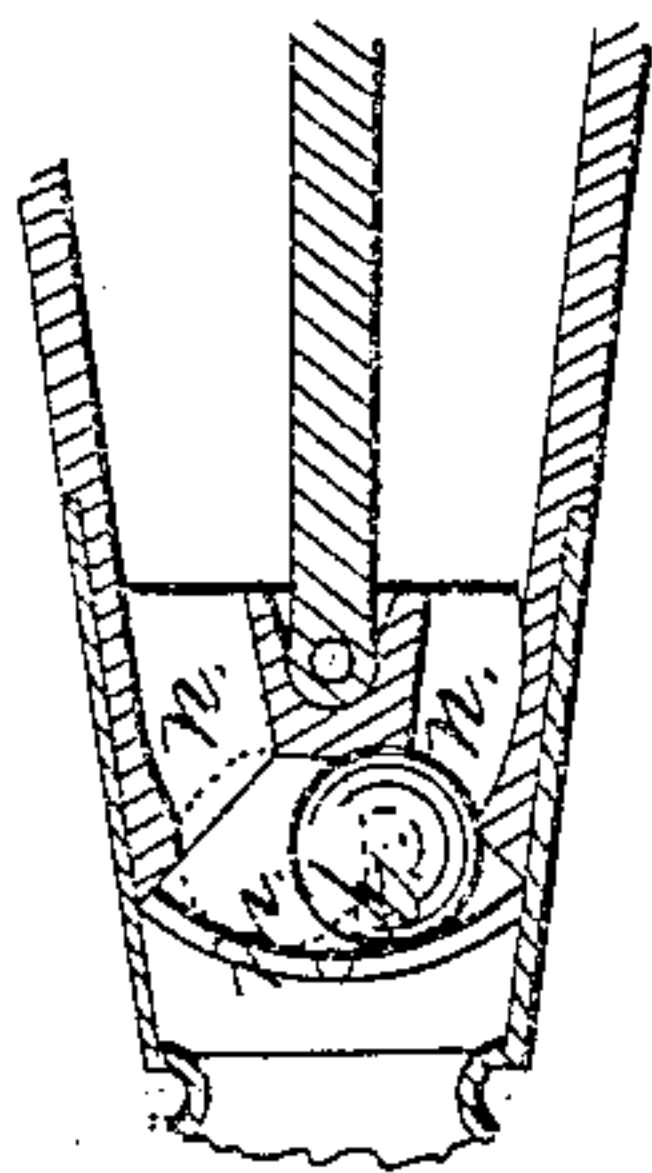


Fig. 1.

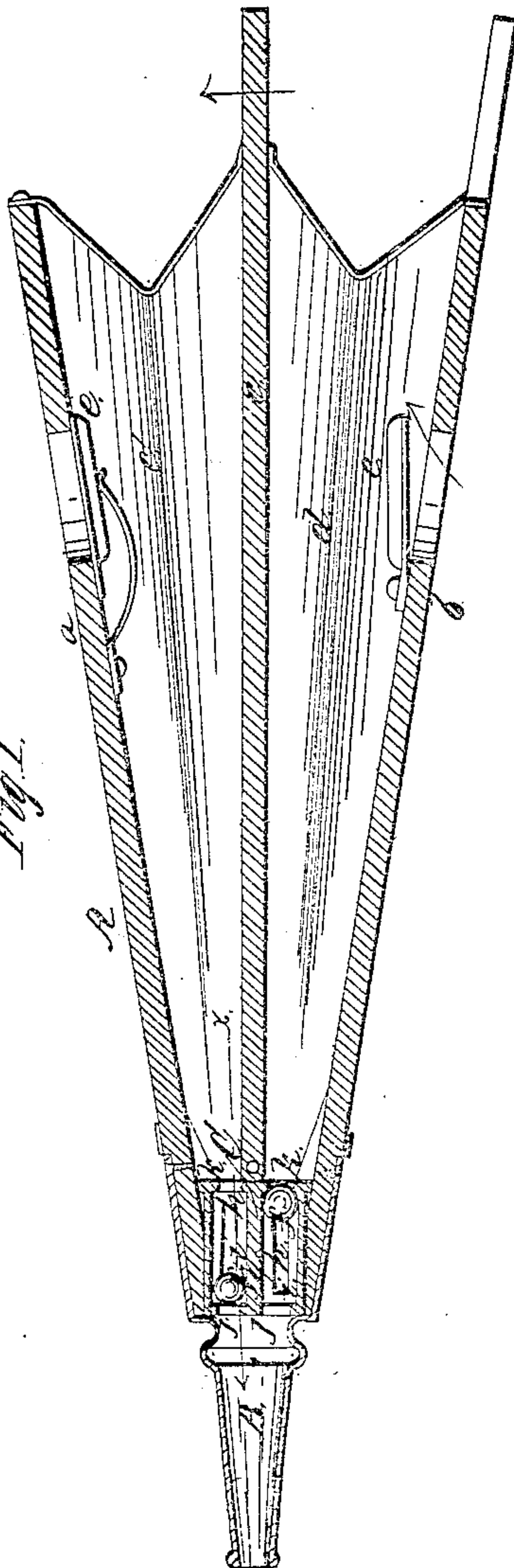
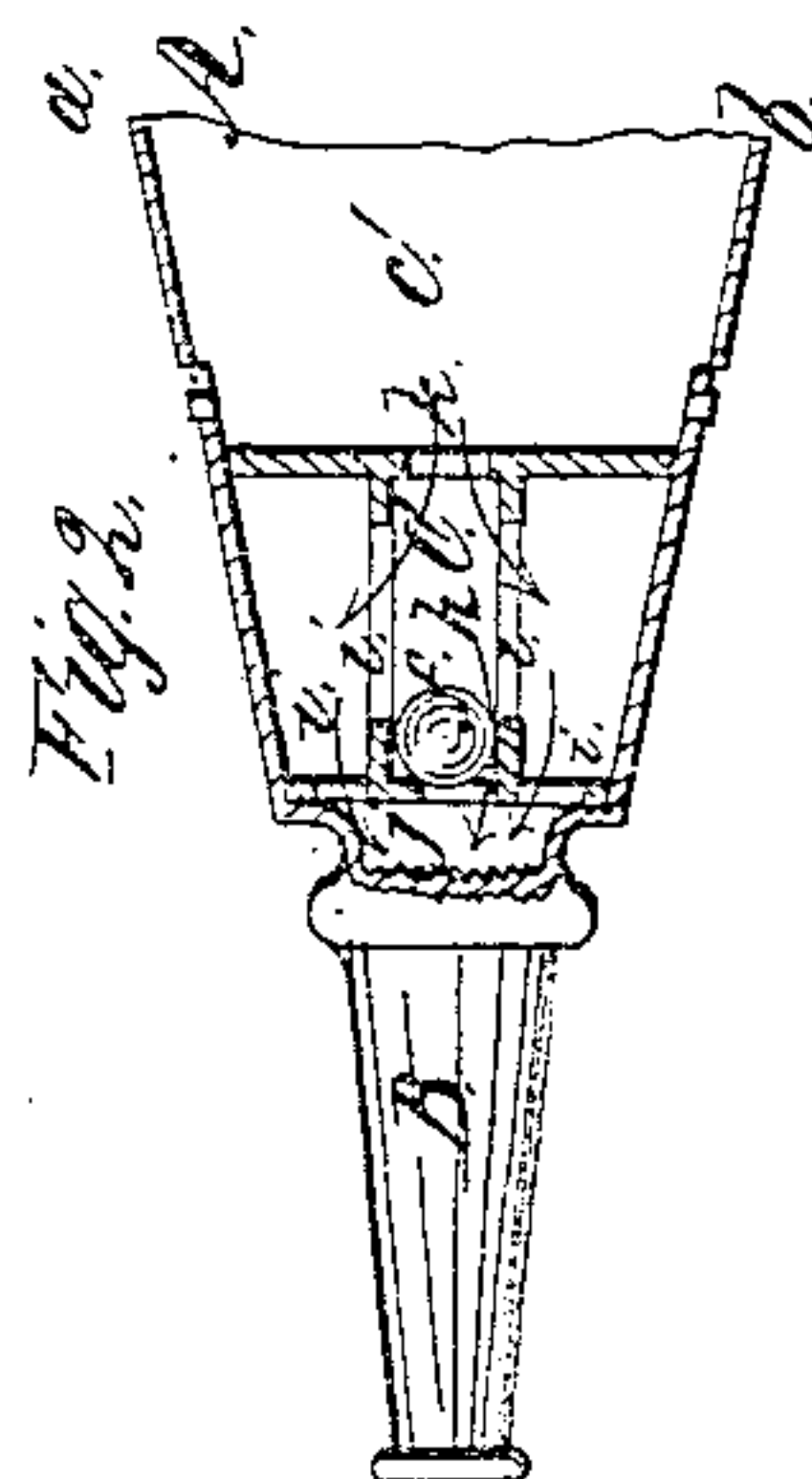
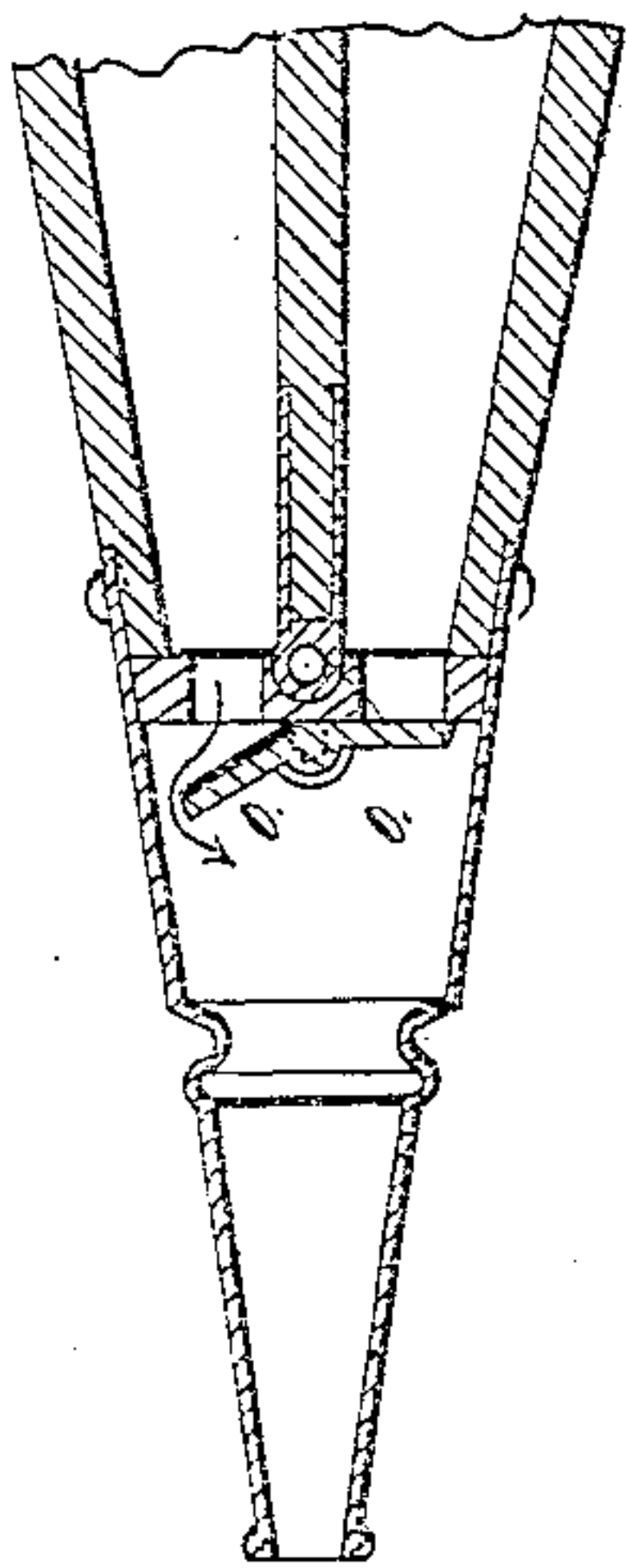


Fig. 4.



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UNITED STATES PATENT OFFICE.

R. BOEKLEN, OF BROOKLYN, AND LOUIS PLANER, OF NEW YORK, N. Y.

IMPROVEMENT IN BELLOWS.

Specification forming part of Letters Patent No. 38,880, dated June 16, 1863; antedated September 1, 1862.

To all whom it may concern:

Be it known that we, R. BOEKLEN, of Brooklyn, in the county of Kings and State of New York, and L. PLANER, of the city, county, and State of New York, have invented a new and useful Improvement in Bellows; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical and central section of our invention. Fig. 2 is a horizontal section of Fig. 1, taken in the line *x x*. Figs. 3 and 4 show modifications of our invention.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to prevent dust and fire or heat being drawn or sucked into the bellows when the latter are in use and are distended or expanded for inflation. This drawing in of the dust and heat greatly injures the bellows, and soon destroys them, the heat drying the leather and causing it to crack, and the dust in a short time clogging and preventing the proper action of the valves.

The within-described invention consists in the employment or use of two ball-valves applied to the bellows in a novel way, as hereinafter fully shown and described, whereby the desired result is attained by a very simple means, which may be applied economically, and which will not be liable to get out of repair nor become deranged by use.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A, Figs. 1 and 2, represents a double-acting bellows, having stationary top and bottom plates, *a b*, with a central moving plate, *c*, the latter serving as a partition and dividing the bellows into two compartments, *c' d*. The top and bottom plates, *a b*, have each a valve, *e*, which opens inward. In the outer end of the bellows A, adjoining the nozzle B, there is fitted a box, C, which contains two ball-valves, *f f*. The box C is provided with a horizontal central partition, *g*, which forms

two valve-chambers, *h h*, one communicating with each compartment of the bellows, and both valve-chambers communicating with the nozzle B, as shown clearly in Fig. 1.

From the above description it will be seen that when the plate *c* is raised or forced upward the air in the upper compartment, *c'*, will be forced through the upper valve-chamber *h*, as indicated by the arrows, the outer part of this as well as the other valve-chamber having passages *i*, as shown in Fig. 2, for the air to escape. The valves *f* bear against stops *j* when the air is being forced through their respective chambers. When air is being expelled from the upper compartment, *c'*, of the bellows, the lower compartment, *d*, is being inflated, the valve *e* of the latter opening inward, and its ball-valve *f* drawn snugly against its seat *k*, thereby preventing the admission of fire, heat, or dust into the compartment *d* while being inflated. This valvular arrangement may be applied to bellows at a small cost, and it will add greatly to their durability, as the bellows may always be kept clean or free from trash and dust and the leather prevented from being injured by heat or fire, as is the case to a greater or less extent with ordinary bellows.

By the arrangement of the ball-valves *f f* in the box C, as shown and described, a very durable device is obtained for the purpose. There are no parts liable to be injured by heat, nor by ordinary wear.

We do not claim, broadly, and irrespective of the construction and arrangement herein shown and described, a bellows provided with valves, for they have been previously used; but

What we do claim as new, and desire to secure by Letters Patent, is—

The employment or use of the ball-valves *f f*, placed in a box, C, provided with a central partition, *g*, and applied to the double-acting bellows, as and for the purpose herein set forth.

R. BOEKLEN.
LOUIS PLANER.

Witnesses:

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J. W. LOUNSBURY.