

J. CAMPBELL.

Bel lows.

No. 152,071.

Patented June 16, 1874.

Fig. 1.

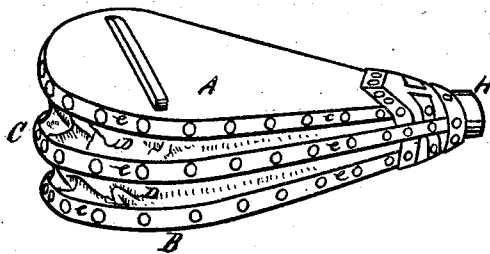


Fig. 2.

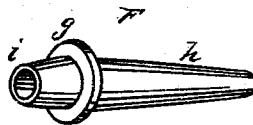
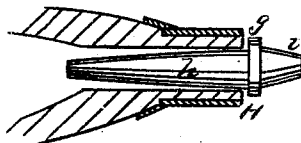


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES CAMPBELL, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN BELLOWS.

Specification forming part of Letters Patent No. **152,071**, dated June 16, 1874; application filed February 18, 1874.

To all whom it may concern:

Be it known that I, JAMES CAMPBELL, of San Francisco city and county, State of California, have invented Improvements in Bellows; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My improvement relates to the nozzle; and consists in casting or otherwise forming the nozzle and nozzle-opening in the bellows so that the nozzle can be reversed and slipped inside of the bellows when it is being packed for transportation.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawings, in which—

Figure 1 is a view of the bellows, showing the binding-strips. Fig. 2 is a view of the nozzle. Fig. 3 is a section, showing the nozzle inverted for transportation.

A represents the top, B the bottom, and C the middle boards of an ordinary blacksmith's bellows. The nozzle F I cast or otherwise form with a flange, *g*, near one end, as shown, leaving the long or projecting end of the nozzle *h* on one side, and a short conical end, *i*, on the opposite side.

Either end of this nozzle can be inserted into the hole in the head or pipe H of the bellows.

When in use, the short conical end *i* will be inserted in the pipe H until the flange *g* fits against its end; and screws, bolts, or rivets can be employed to fasten it in place, by passing through the flange into the pipe; or the end *i* may be arranged to screw into the head, as desired; but, when the bellows is to be packed for transportation, the nozzle is removed, and the long end *h* is inserted into the head or pipe, so as to leave only the short portion or end *i* projecting from the head, thus providing a saving of about twenty per cent. in the measurement of the package, and, consequently, reducing the cost of transportation.

It will be noticed that the lower end *h* of the nozzle is smaller in diameter at the flange than the short end *i*. This is necessary in order to permit the long end *h* to enter the bellows without interfering with the middle board or partition of the bellows.

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

The reversible nozzle F, with its flange *g*, with its long end *h* and short cone *i*, in combination with the bellows-head H, as described.

In witness whereof I hereunto set my hand and seal.

JAMES CAMPBELL. [L. S.]

Witnesses:

JOHN L. BOONE,
C. M. RICHARDSON.