

JOHN H. SNYDER.
Improvement in Bellows.

No. 121,678.

Patented Dec. 5, 1871.

Fig. 1.

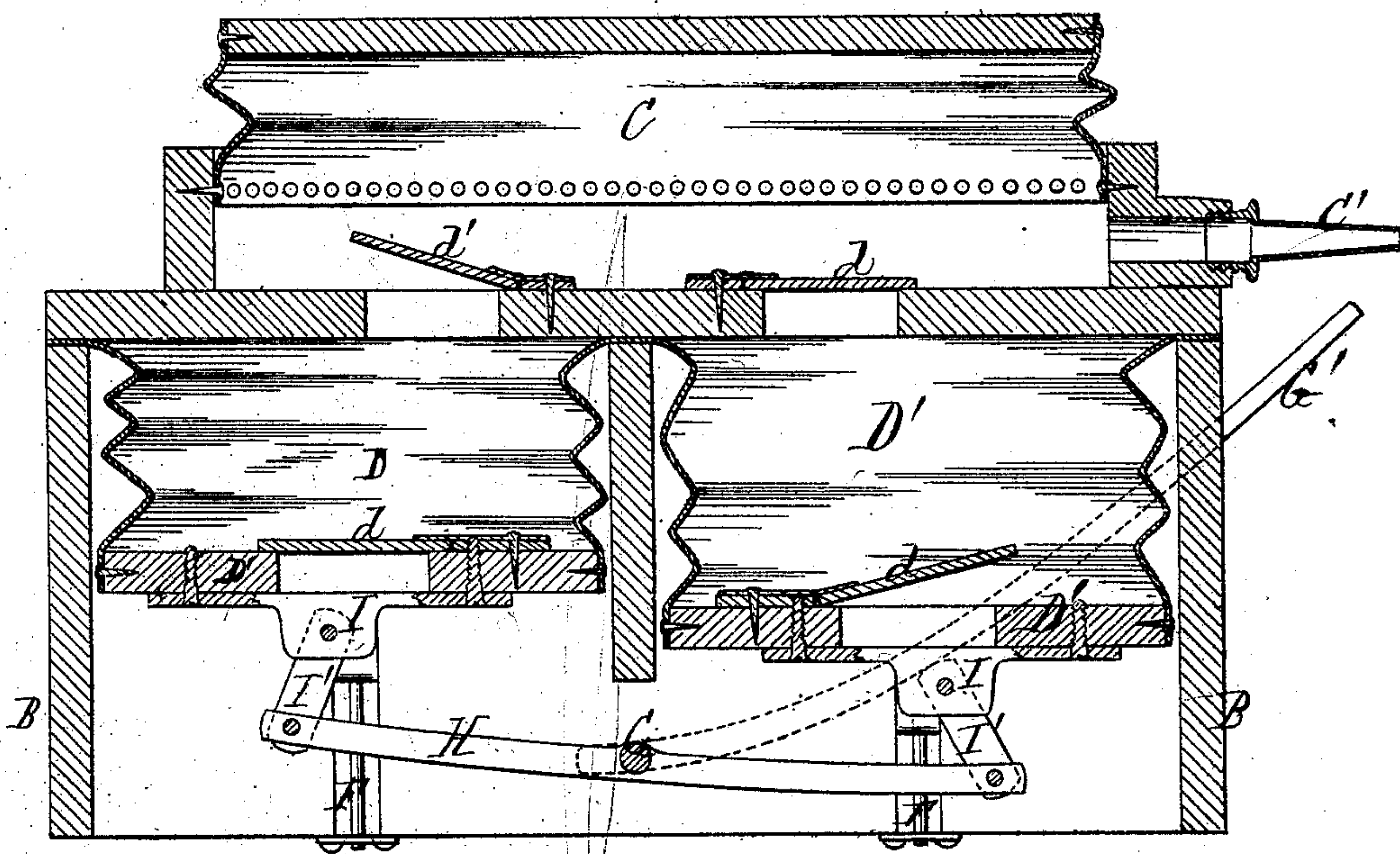
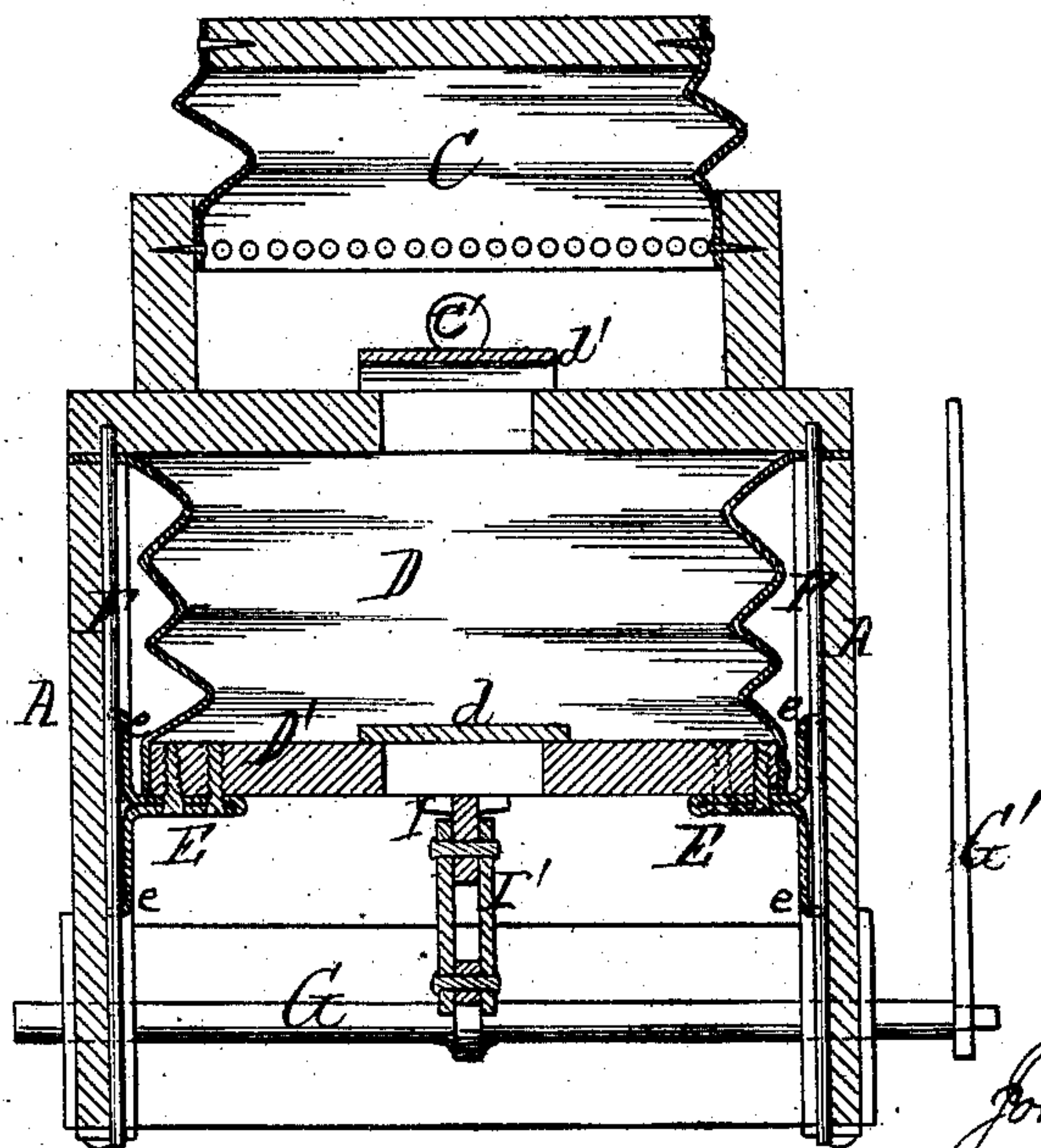


Fig. 2.



Witnesses
Alex. Mahon
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Inventor.
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UNITED STATES PATENT OFFICE.

JOHN H. SNYDER, OF ROCKFORD, ILLINOIS, ASSIGNOR TO HIMSELF AND GEORGE HEPBURN, OF SAME PLACE.

IMPROVEMENT IN BELLOWS.

Specification forming part of Letters Patent No. 121,678, dated December 5, 1871.

To all whom it may concern:

Be it known that I, JOHN H. SNYDER, of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Bellows; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

Figure 1 is a vertical longitudinal section, and Fig. 2 is a vertical transverse section.

The invention relates to that class of blowers or bellows known as double-acting from having their lower or feeding portion divided into two parts, each provided with induction and eduction valves, and having counter vibrations for the purpose of maintaining a continuous blast of air from the upper portion or reservoir through the tuyere or nozzle. The invention consists in combining with the heads of the feeders certain devices whereby said heads are operated in a very effective manner, as will be explained.

The bellows are supported upon a box which incloses the feeder, as represented in the drawing, in which A A are the sides, and B B the ends. C represents the reservoir, the top of which may be loaded or pressed down by springs in order to produce the desired strength of blast. C' represents the tuyere, nozzle, or wind-trunk. D D' are the blowers or feeders, each being provided with induction-valves *d* and eduction-valves *d'*. These parts may be of any usual or desired construction, and in practice I usually provide the reservoir C with a waste-pallet, closed with a spring of the necessary tension. E are cross-heads or T-pieces, secured centrally to each of the lower heads D' of the feeder in a vertical position—that is, with one of the arms *e* above said head and the other below. Each of the arms *e* has its ends turned outward and provided with a perforation or slot, through which passes a guide-rod or way, F, secured in an upright position to the sides A of the box or inclosing-case. Thus it will be seen that the heads of the feeders are maintained in a horizontal position during their vibrations, which are produced by the following

devices: G is a rock-shaft mounted in suitable bearings in the sides of the case, as shown in Fig. 2. One end of this shaft projects sufficiently beyond the case to receive a lever, G'. H is a rocking bar, secured centrally to rock-shaft G and vibrating with it. I are brackets attached to the heads D' of the feeders, and connected with the ends of bar H by links I'.

It will be readily seen that when the free end of lever G' is moved up and down the bellows are at once put in operation, and a continuous stream of air forced out at the nozzle C', and that the employment of cross-heads E and ways F for the purpose of keeping the heads of the feeder horizontal, relieves the rocking bar H and links I' from cramping or binding. It will also be found that this construction of feeder produces a bellows of much greater capacity and power than those having the ordinary hinged or wing feeders, even when operated by a similar blowing action. the bellows-boards being always kept in proper relation to the other parts by means of the cross-heads E and ways F.

My improved bellows is particularly adapted for use in blacksmith-shops and with portable forges, as the blowing action is very compactly arranged, and is entirely inclosed, being, therefore, very convenient for transportation, and not liable to be obstructed when in operation. The action is made entirely of metal, and the parts can be readily repaired or replaced should they get broken.

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

In combination with the reservoir C, the feeders D D', rock-shaft G, lever G', brackets I, links I', cross-head E, and ways F, arranged within the case A B, and operating substantially as set forth.

This specification signed and witnessed this 5th day of September, 1871.

JOHN H. SNYDER.

Witnesses:

G. W. FORD,
W. T. QUIGLEY.

(12)