No. 835,617. PATENTED NOV. 13, 1906.

J. T. HILL.

BELLOWS.

APPLICATION FILED OCT. 16, 1905.

Fig. 1.

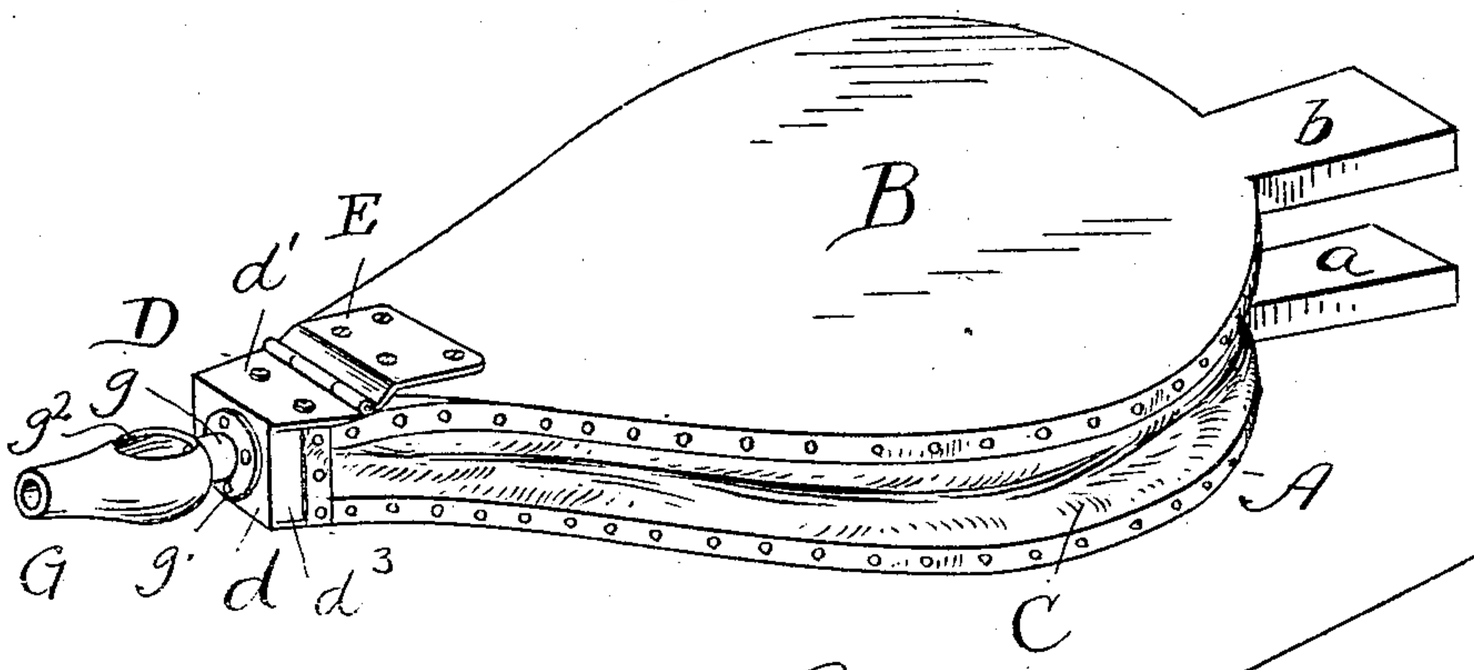


Fig. 2.

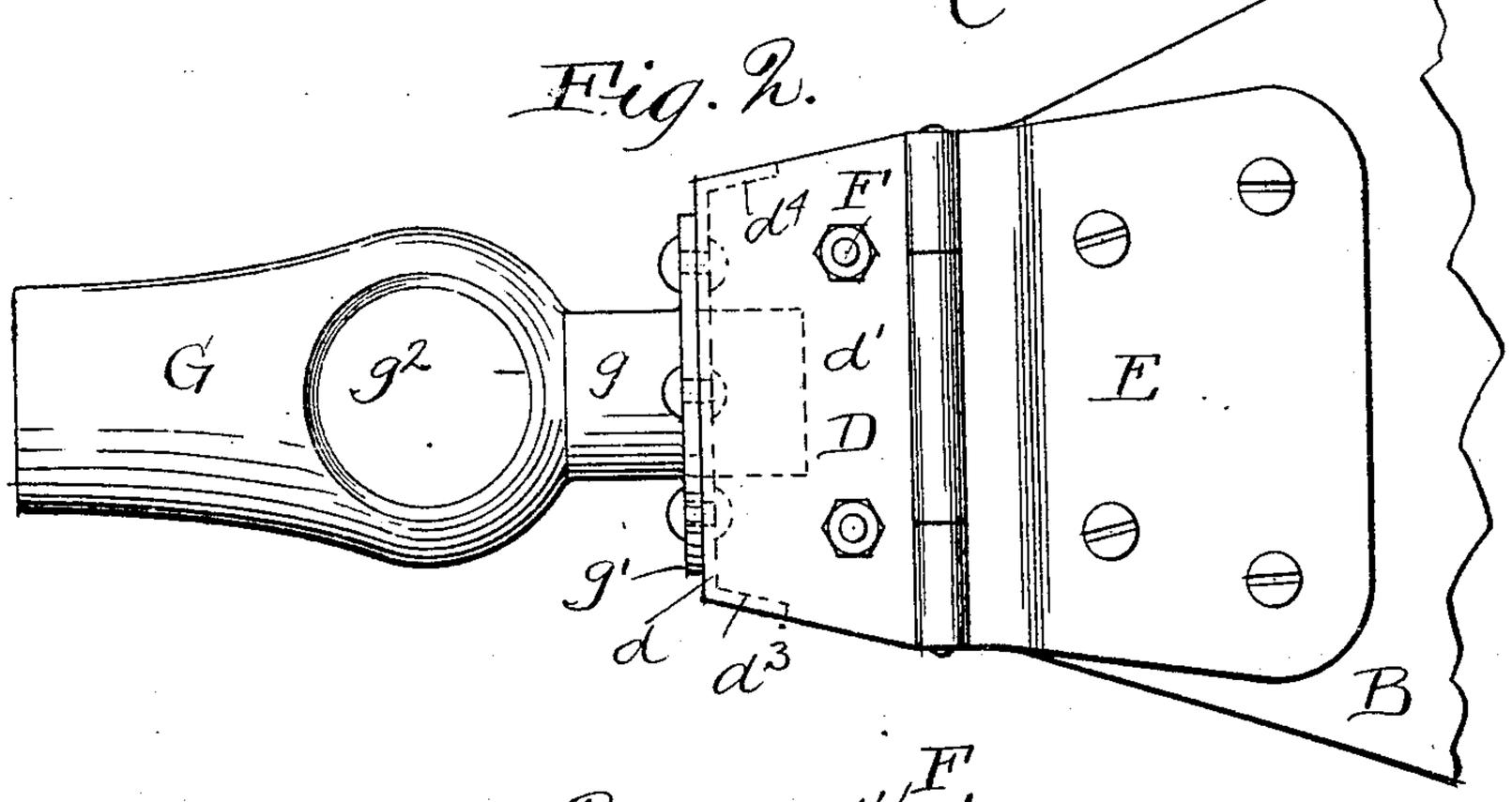
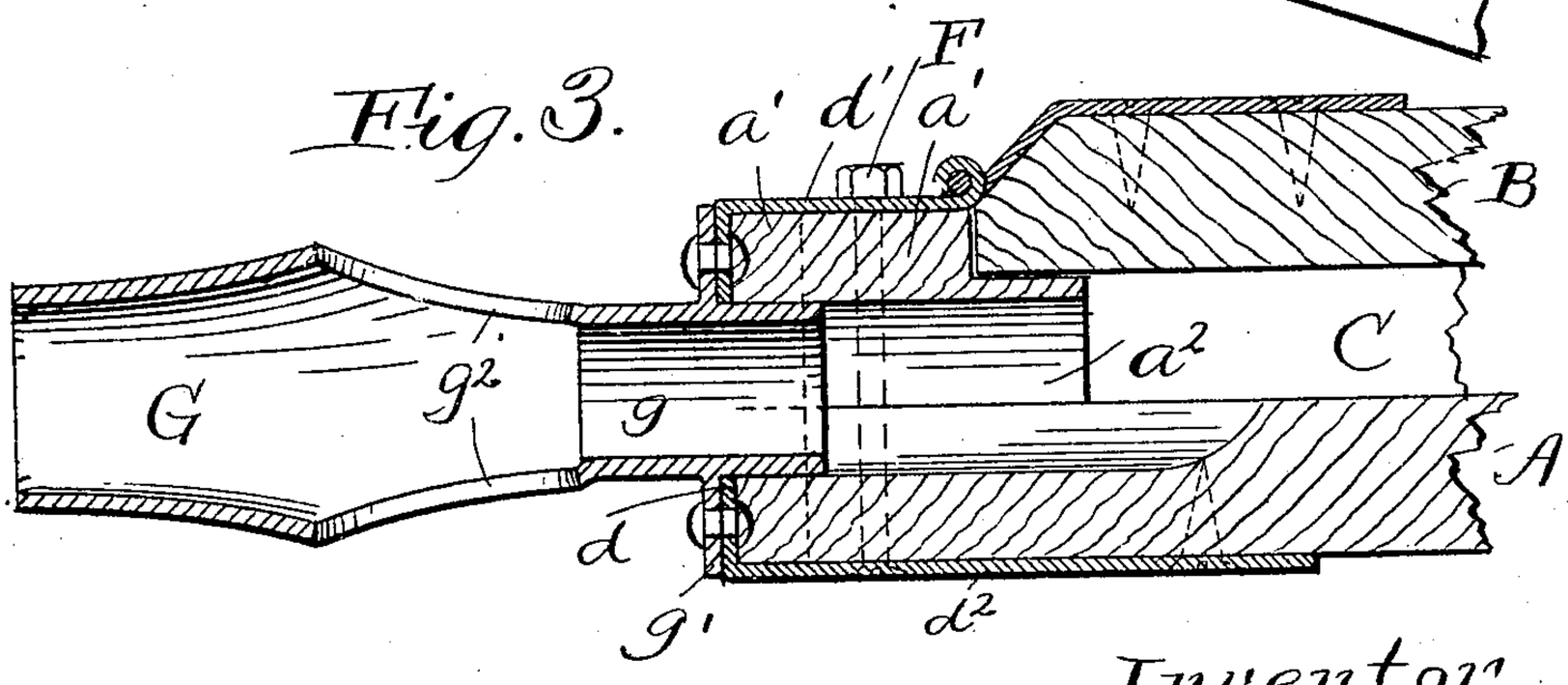


Fig. 3.



Witnesses.
E. B. Gilchrist.
W. L. McGarrell.

Inventor:
John T. Hill,
By his attorneys,
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UNITED STATES PATENT OFFICE.

JOHN T. HILL, OF CLEVELAND, OHIO.

BELLOWS.

No. 835,617. Specification of Letters Patent. Patented Nov. 13, 1906.

Application filed October 16, 1905. Serial No. 282,896.

To all whom it may concern:

Be it known that I, JOHN T. HILL, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Bellows, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The object of the invention is to provide a cheap and durable bellows capable of discharging a large volume of air from its nozzle in a definite direction.

Figure 1 is a perspective view of the bellows complete. Fig. 2 is a plan, and Fig. 3 a central section, of a portion of the bellows adjacent to the nozzle.

A and B represent, respectively, the two boards which are hinged together at the discharge end and are provided with the usual operating-handles *a b* at the other end. For convenience of description the board A will be called the "bottom" board and the board B the "top" board. A piece of leather C is attached to the edges of these boards in the usual way.

A block *a'* is secured to the inner face of the narrow discharge end of the board A, thereby thickening said board, and the longitudinal air-discharge hole a^2 is formed by longitudinal grooves in the meeting faces of said block and board.

A metal cap D is fitted upon this thickened front end of the board A. This cap has an end plate *d*, which is perforated in alinement with the hole a^2, and it has also the top and bottom plates *d' d²* integral with the end plate, which respectively lie against the top and bottom of this thickened end. This cap is preferably made of sheet metal and provided with side flanges d^3 d^4, which are turned over from the sides of the end plate. The thickened discharge end of board A is of such shape that it nicely fits into the described metal cap which is secured to it by bolts F, passing through said thickened end and through the top and bottom plates *d' d²*.

A metal leaf E is hinged to the edge of the flange *d'*. Adjacent to the hinged pintle this leaf is bent upward and then again into horizontal position, so that the main portion of said leaf may lie against the outer face of the board B, to which it is secured.

G represents the discharge-nozzle, which has a neck *g* of reduced diameter which is fitted into the hole a^2, passing through the end plate *d*. There is a laterally-projecting flange *g'* on the neck *g*, which flange is riveted to the said end plate *d* of the cap. In the nozzle close to the said neck are two opposed holes g^2. With this construction a greater quantity of air will be discharged from the nozzle than is possible with an ordinary nozzle, because while air is being expelled from the bellows through said nozzle additional air will be drawn into the nozzle through the holes g^2, and this air will by so much increase the volume of air discharged from the nozzle, although it will decrease the force of the discharge.

It will be noted that the cap and nozzle are rigidly attached to the board A, while the board B is rigidly secured to the hinged leaf E. Because, as above stated, this hinged leaf is hinged to the cap D the board B is provided with a hinged connection with board A. This enables one to point the nozzle and hold it in any direction by holding the board A and by operating the board B alone.

I claim—

1. In a bellows, the combination of the board A which is thickened on the inner face of its discharge end, and has a discharge-hole extending longitudinally through said thickened part, a metal cap secured upon said thickened end and having an end plate having a hole which is alined with the discharge-hole in the thickened end of the board and a top plate which lies against the top side of said thickened end, a discharge-nozzle passing through and secured to said end plate, a metal hinged leaf hinged to the top plate of said cap, and the board B to whose top face said hinged leaf is secured.

2. In a bellows, the combination of the board A having a thickening-block on the inner face of its discharge end whereby said end is thickened and a discharge-hole extending longitudinally through said thickened end, a metal cap which is fitted and secured upon said thickened end and consists of an end plate in which is a hole which is alined with the discharge-hole in the thickened end of the board, and top and bottom plates which lie respectively against the top and bottom sides of said thickened end, a nozzle secured to the end plate of said cap in alinement with the hole therein, a hinge-leaf pivoted to the top plate of said cap, and the top board to which said hinge-leaf is secured.

3. In a bellows, the combination of the board A having a thickening-block on the inner face of its discharge end whereby said end is thickened and a discharge-hole extending longitudinally through said thickened end, a metal cap fitted upon said thickened end and having an end plate which has a hole alined with the discharge-hole in the thickened end of the board, and a top and bottom plate which lie against the top and bottom sides of said thickened end and are secured thereto, a nozzle communicating with the hole in said end plate, a metal hinged leaf hinged to the top plate of said cap, and the board B to whose top face said hinged leaf is secured, the said nozzle having its projecting end enlarged and having holes in said enlarged part.

4. In a bellows, a metal cap, consisting of an end plate with a hole through it and top and bottom plates, combined with a hinge-leaf pivoted to the top plate, and a nozzle secured to the end plate in alinement with the hole therein.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN T. HILL.

Witnesses:

ALBERT H. BATES,

W. L. MCGARRELL.