

L. LUNSTRUM.
AIR FLUE BLOWER.
APPLICATION FILED JUNE 5, 1909.

938,495.

Patented Nov. 2, 1909.

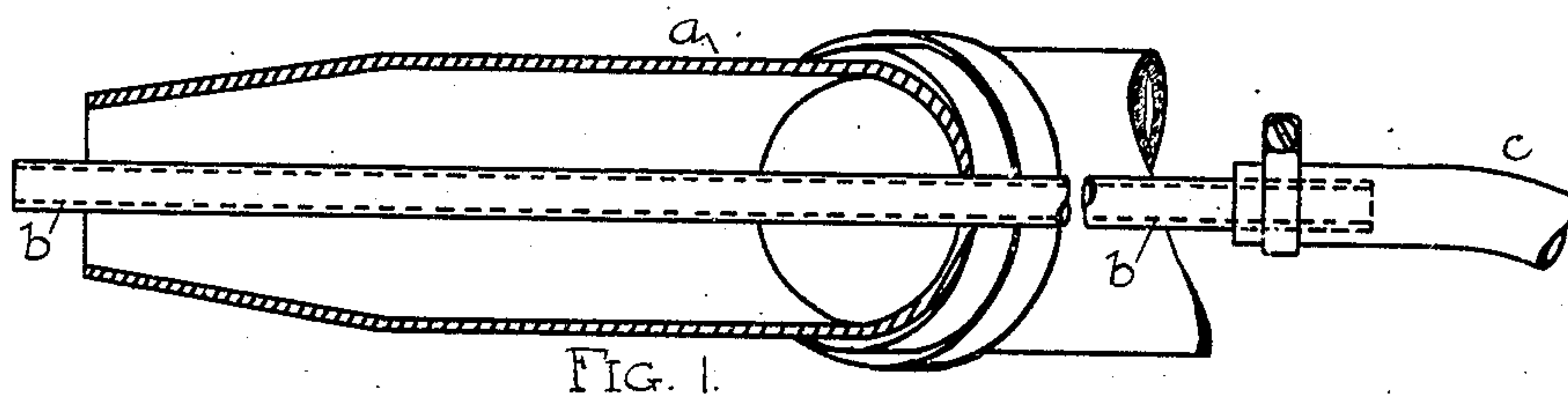


FIG. 1.

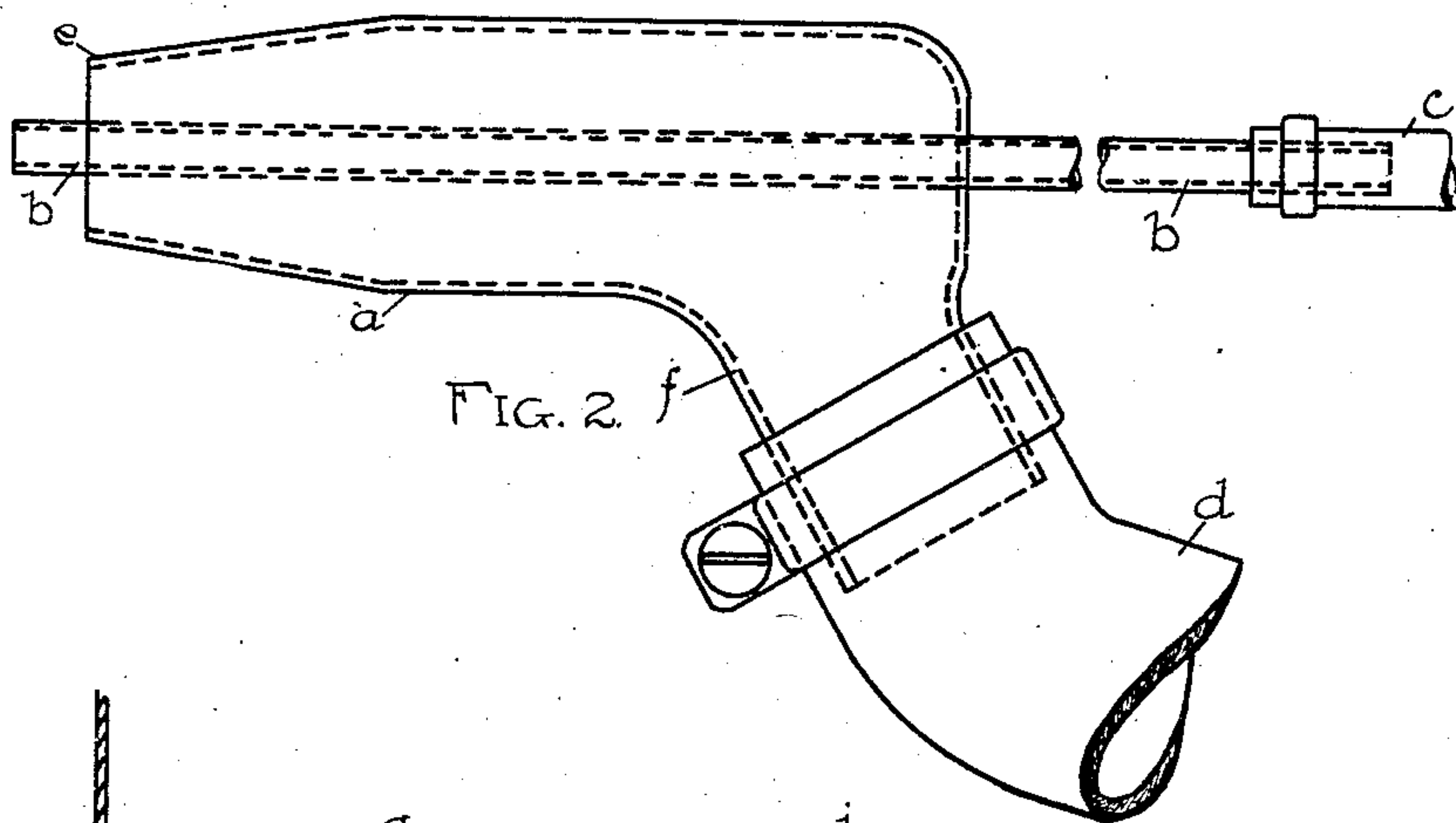


FIG. 2.

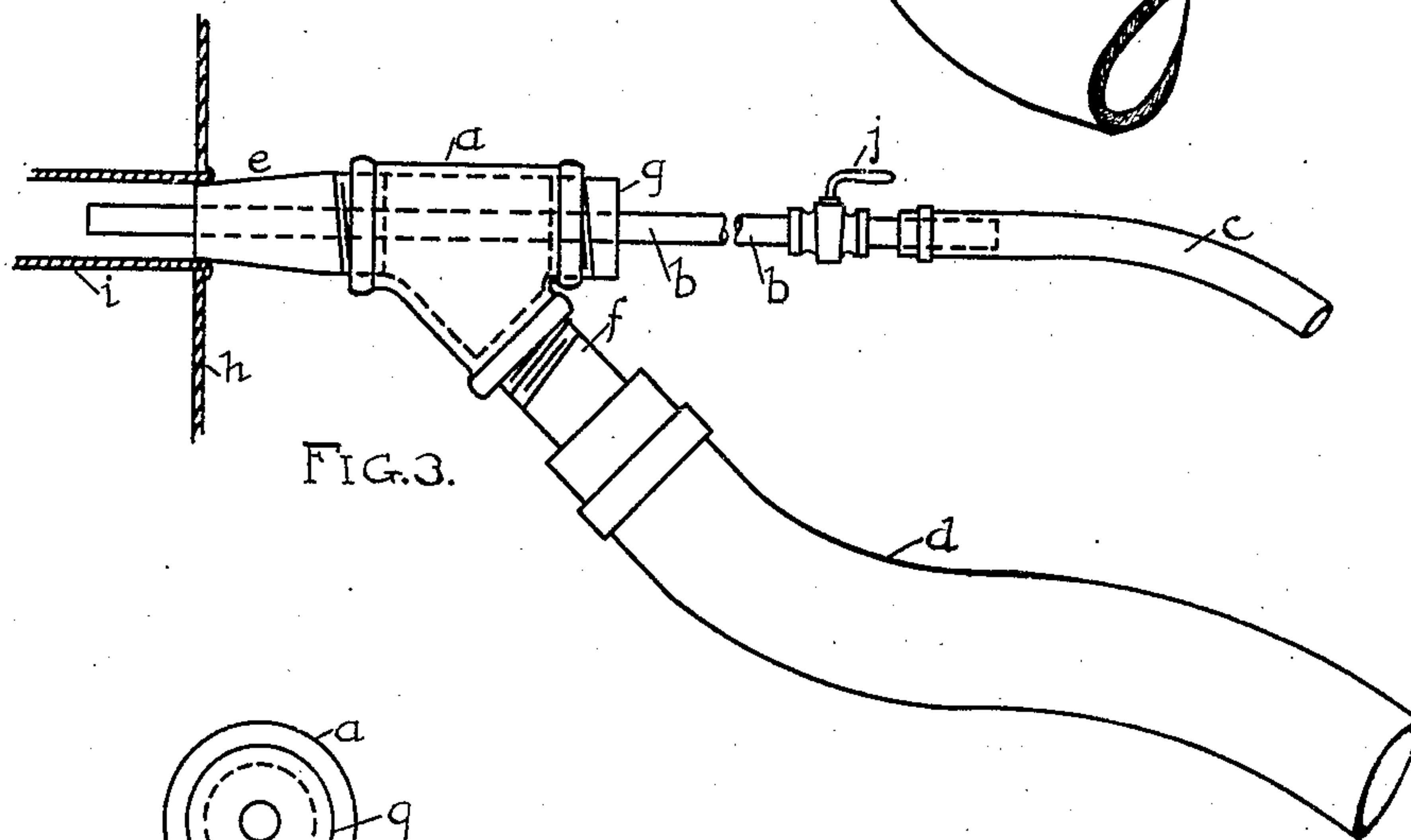


FIG. 3.

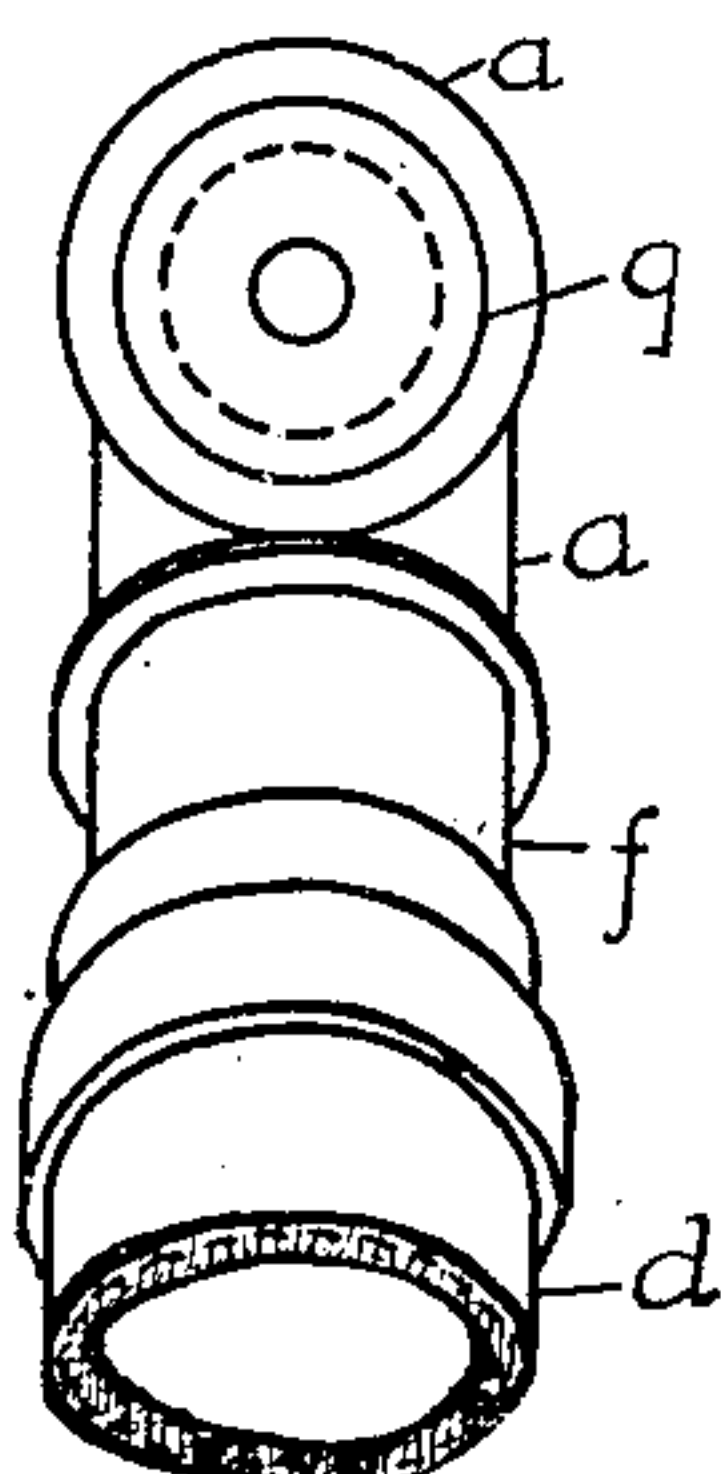


FIG. 4.

WITNESSES

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LOUIS LUNSTRUM, OF COUNCIL BLUFFS, IOWA.

AIR-FLUE BLOWER.

938,495.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS LUNSTRUM, a citizen of the United States, residing at Council Bluffs, in the county of Pottawattamie and State of Iowa, have invented a new and useful Improvement in Air-Flue Blowers, of which the following is a specification.

My invention relates to improvements in air flue blowers in which compressed air is blown against the material filling the flues through a pipe inserted through a head applied to the flue; and the objects of my invention are, first, to provide such a blower with means for properly adjusting the same to various sized flues within a given range; second, to provide such a blower that all dust and refuse matter will be carried out of the fire-box or boiler while the flues are being cleaned so as not to interfere with its operation; third, to provide such a blower made of commercial pipe fittings if desired.

I attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 is a cross section and plan of my device; Fig. 2 a side elevation of the same; Fig. 3 is a side elevation of the device made of commercial pipe fittings and showing the application of the device to a flue of the boiler; Fig. 4 is an end elevation of the device illustrated in Fig. 3.

Similar letters refer to similar parts throughout the several views.

A head *a* is provided with a sliding similar tube *b*. To the head *a* is attached a flexible tube or hose *d* arranged to be carried to any suitable point without the furnace or boiler within which the apparatus is used. To the pipe *b* is attached a suitable flexible tubing or hose *c* carrying compressed air supplied to the same. The pipe *b* slides through a suitable hole in the head *a*. The head *a* is tapered at *e* to fit into a boiler tube within a given range of diameter. The structure may be made up of a swaged nipple *e* screwed into an ordinary T or Y *a*, into one branch of which T or Y *a* may be screwed another nipple *f*. Opposite the swaged nipple *e* into the T or Y *a* is screwed a plug *g* having a hole through it to receive and allow the pipe *b* to slide. To the nipple *f* is attached a suitable flexible tubing *d*. To the pipe *b* is attached a hose to connect with a supply of compressed air. A suitable cut-off cock *j* may also be provided to control the

supply of compressed air for the operation of said flue blower.

The head or chamber *a* is placed in the end of any flue as *i* in the head of a boiler as *h*, which needs cleaning or which is stopped with cinders or soot. The flexible tube *d*, leading from the head *a* and attached to the portion *f*, is led out through the fire-box door or down through the grates of the fire-box to any suitable place where the soot and cinders passing therefrom will not interfere with the use of the apparatus by the person holding it in the flue as *i*. This being a very important element in this invention for the reason that it is impossible to use such blowers where the discharge from the head *a* is conducted into any portion of the fire-box or boiler. The flexible tube *c* connected to the pipe *b* is led to a suitable supply of compressed air. The compressed air is then turned on through the flexible tube *c* as by the cut-off *j* to the pipe *b*. The blast of compressed air through the pipe *b* dislodges the finer particles of soot or cinders with which a flue as *i* may be clogged thus loosening obstructions and the expansions of the compressed air carries the dislodged obstructions and particles back through the head *a* and through the flexible tube *d* out of the fire-box or boiler without causing any dust or suffocation to the person manipulating the device. As the tube as *i* is cleaned the pipe *b* *e* is of sufficient length and flexibility to be pushed through the head *a* until the boiler tube as *i* is thoroughly cleaned. I preferably construct said apparatus out of a single piece as shown in Figs. 1 and 2, with the flexible tube *d* attached and a suitable tube *b* passed through the same, but for convenience of construction the same may be formed by using commercial pipe fittings as illustrated in Fig. 3, consisting of a piece of pipe passing through a plug and a nipple in a suitable T or Y of larger size, having a nipple arranged to receive a flexible discharge tube or hose *d*.

The flexible tubes *c* and *d* may be made of ordinary commercial hose attached in the usual manner to commercial gas pipe fittings.

I am aware that prior to my invention air flue blowers have been made wherein a blast of compressed air is used to dislodge stoppage of flues but

What I claim is:—

1. In an air flue blower, the combination

- of a hollow head, a pipe extending and sliding through the same and a flexible tubing attached to said head adapted to receive and discharge material forced into said head.
2. In an air flue blower, a hollow head tapered to fit a boiler tube, a pipe sliding longitudinally through said head and a flexible tubing connecting with said head adapted to receive and discharge material forced into said head.
3. In an air flue blower, the combination of a hollow tapered head, a blast pipe arranged to slide through said head, a flexible tubing attached to said head adapted to receive and discharge material forced into said head and a means of supplying compressed air to said tube sliding through said head.
4. In an air flue blower, the combination of a hollow tapered head, a blast pipe arranged to slide through said head, a flexible tubing attached to said head adapted to receive and discharge material forced into said head, a means of supplying compressed air to said tube sliding through said head, and a cut-off to control the same.
5. In an air flue blower, the combination of a tapered nipple, a commercial T or Y, a drilled plug, a nipple, a pipe passing through said drilled plug and a flexible tube attached to said nipple adapted to receive and discharge material forced into said head.
6. In an air flue blower, the combination of a tapered nipple, a commercial T or Y, a drilled plug, a nipple, a pipe passing through said drilled plug, a flexible tube attached to said nipple adapted to receive and discharge material forced into the said head and a flexible tube supplying said pipe with compressed air.
7. In an air flue blower, the combination of a tapered nipple, a commercial T or Y, a drilled plug, a nipple, a pipe passing through said drilled plug, a flexible tube attached to said nipple adapted to receive and discharge material forced into the said head, a flexible tube supplying said pipe with compressed air, and a cut-off controlling the same.

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Witnesses:

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