

Sheet 1, 2 Sheets.

Lakey & Hayte,

Grate Bar.

N^o 95,812.

Patented Oct. 12, 1869.

Fig. 1.

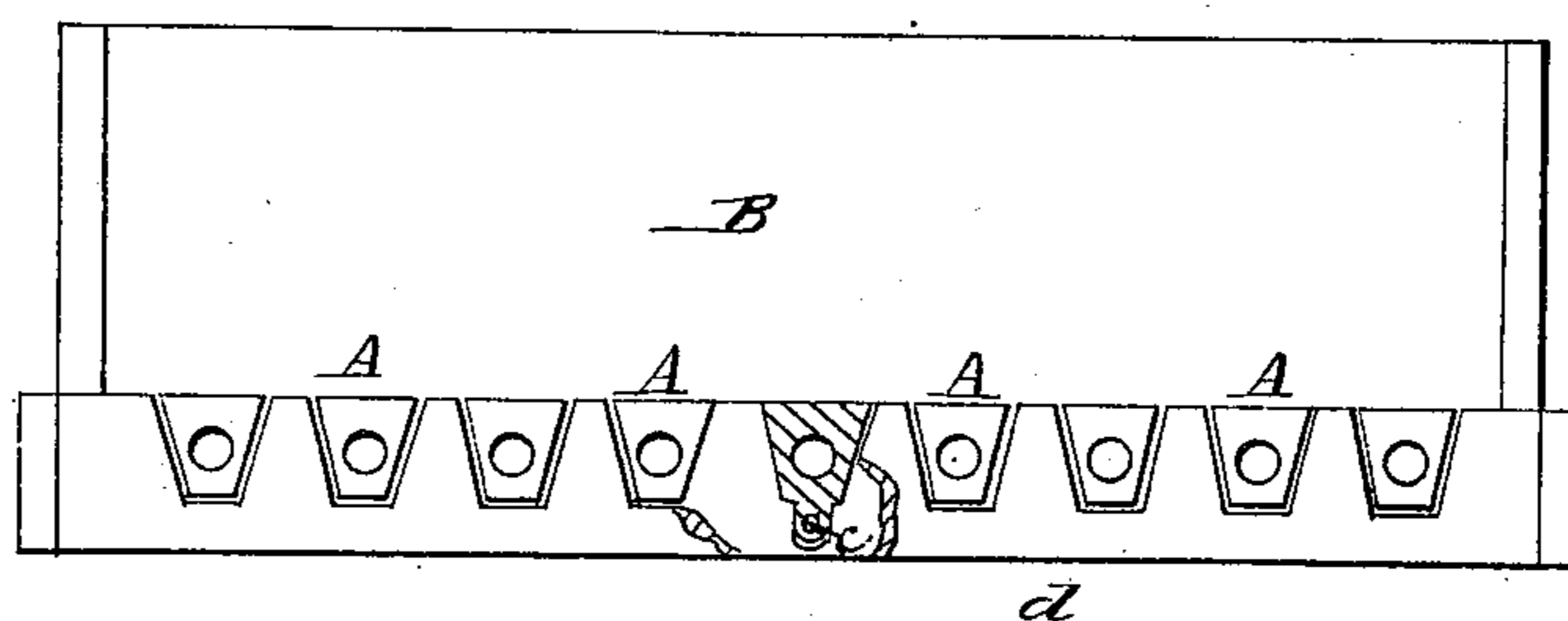
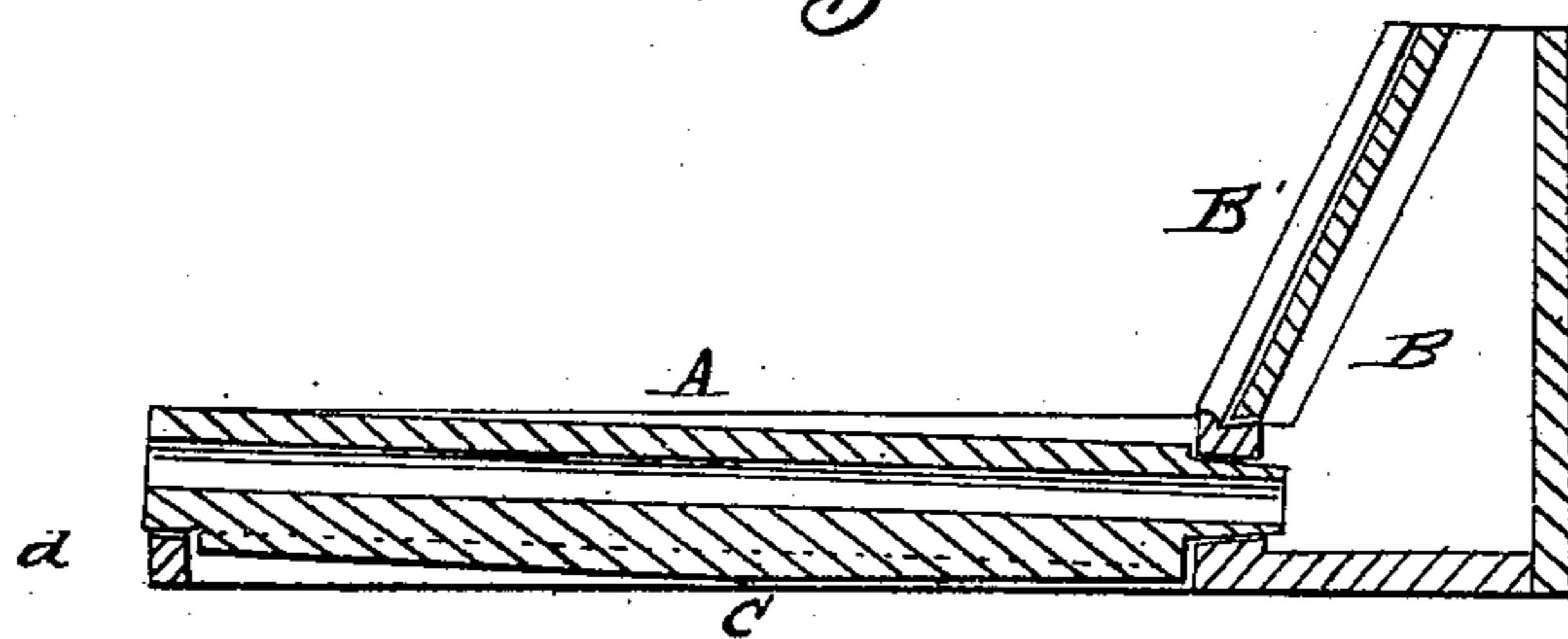


Fig. 2.



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Witnesses:

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Sheet 2, 2 Sheets.

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Fig. 3.

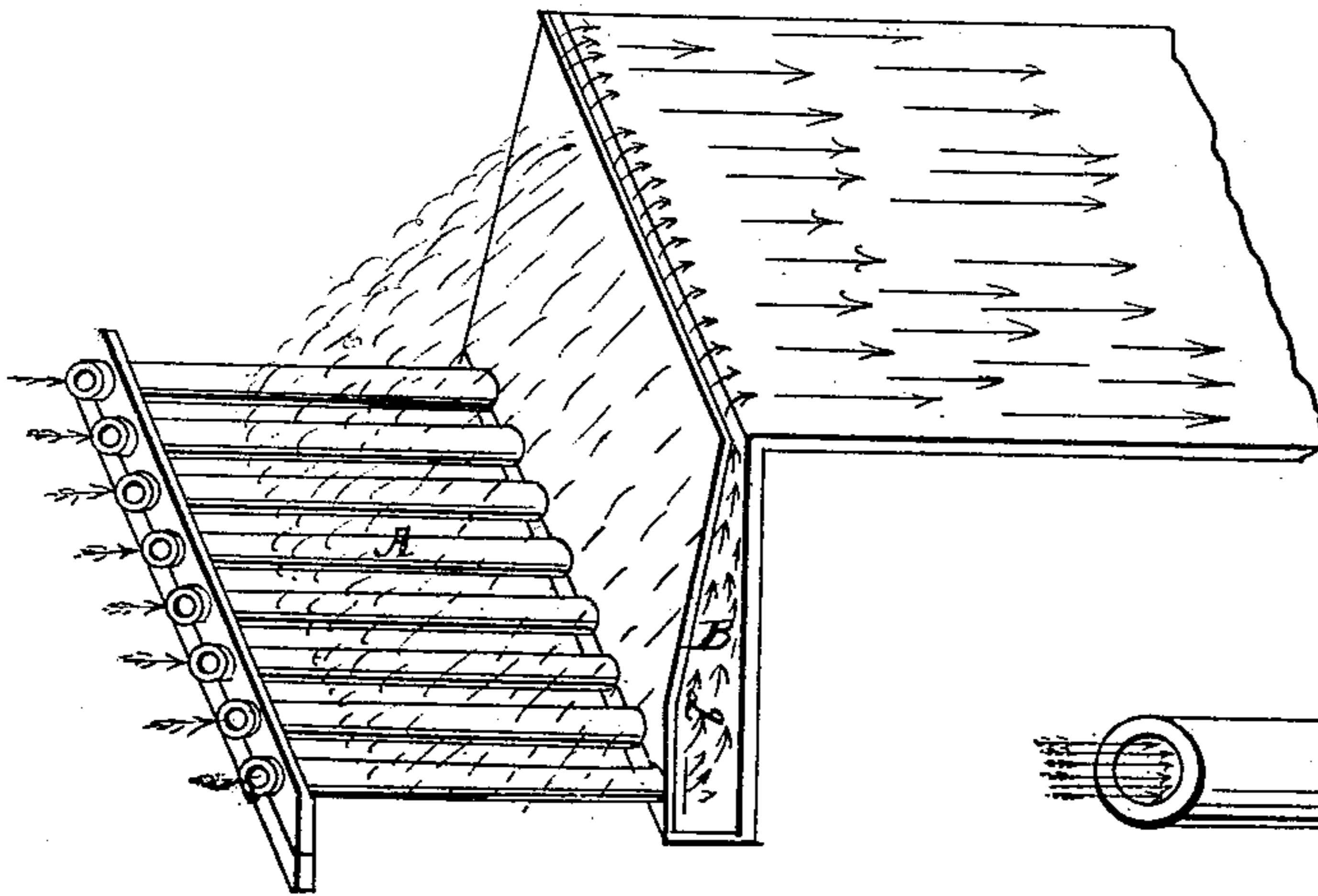
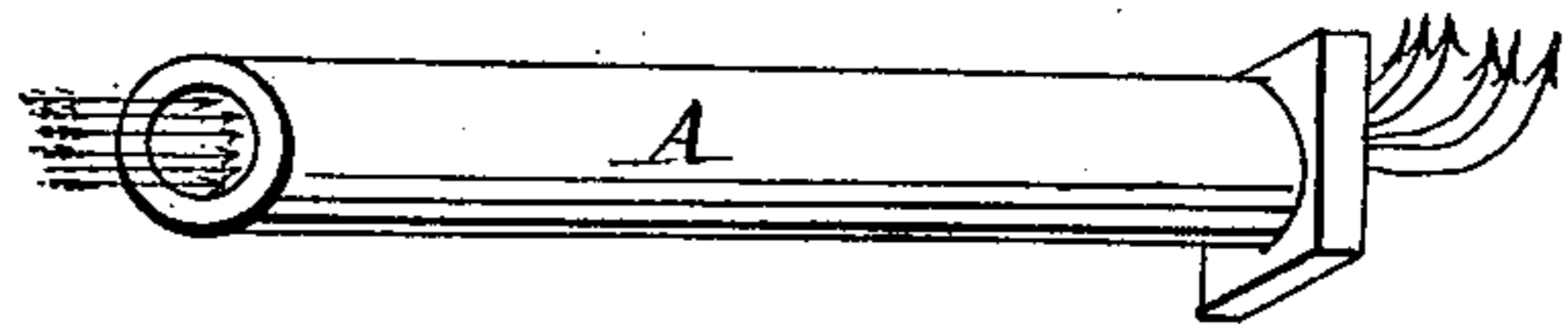


Fig. 4.



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L. F. LAKEY AND W. B. HAYTE, OF QUINCY, ILLINOIS.

Letters Patent No. 95,812, dated October 12, 1869.

IMPROVED GRATE-BAR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, L. F. LAKEY and W. B. HAYTE, of Quincy, in the county of Adams, and in the State of Illinois, have invented certain new and useful Improvements in Grate-Bars; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction of a grate-bar, and in the arrangement of the devices hereafter set forth and explained.

Figure 1 is a rear view of our invention.

Figure 2 is a section view of the same.

Figure 3 is a perspective of the same, with different-shaped bars.

Figure 4 is a perspective of one of the round hollow bars.

When fires are built upon the common grates, a large portion of the fuel is drawn up the flue, in various forms, without having been consumed, and is thus lost, without having accomplished any good. In order to prevent this, we propose to form a hot-air flue, in connection with hollow bars, so that all of the gases, &c., shall be consumed and made to contribute their proportion of heat.

Letter A represents the grate-bars, which may be of two shapes, either perfectly round, (as seen in fig. 4,) or they may be flat upon their tops, and bevelled toward the bottom, on both sides, and have a rib or flange, c, formed on their bottoms.

The bevelled bars have tenons formed on their front ends, which extend through the frame of the air-chamber B, while their rear ends rest in notches of suitable shape, formed in the plate d, thus making them removable, at pleasure.

As all of the bars are hollow, when a fire is built upon them, a current of air is started through them into the air-chamber adjoining. This chamber being heated by the fire, through the slanting movable plate B', becomes so hot, that being brought into contact with the gases and other combustible materials springing from the fire, by means of an opening from the air-chamber, just below the mouth of the flue, consumes the gases, &c., before they enter it. The chamber thus becomes a safeguard from the effect of the gases, sparks, or other combustible materials, and also increases the draught of the fire, and requires a less amount of fuel to create the same heat.

Having thus described our invention,

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

The construction and arrangement of the bars A and movable plate B', with the air-chamber B, substantially as shown and described.

In testimony that we claim the foregoing, we have hereunto set our hands, this 25th day of May, 1869.

L. F. LAKEY.
W. B. HAYTE.

Witnesses:

J. P. DEANE,
H. HEAD.