

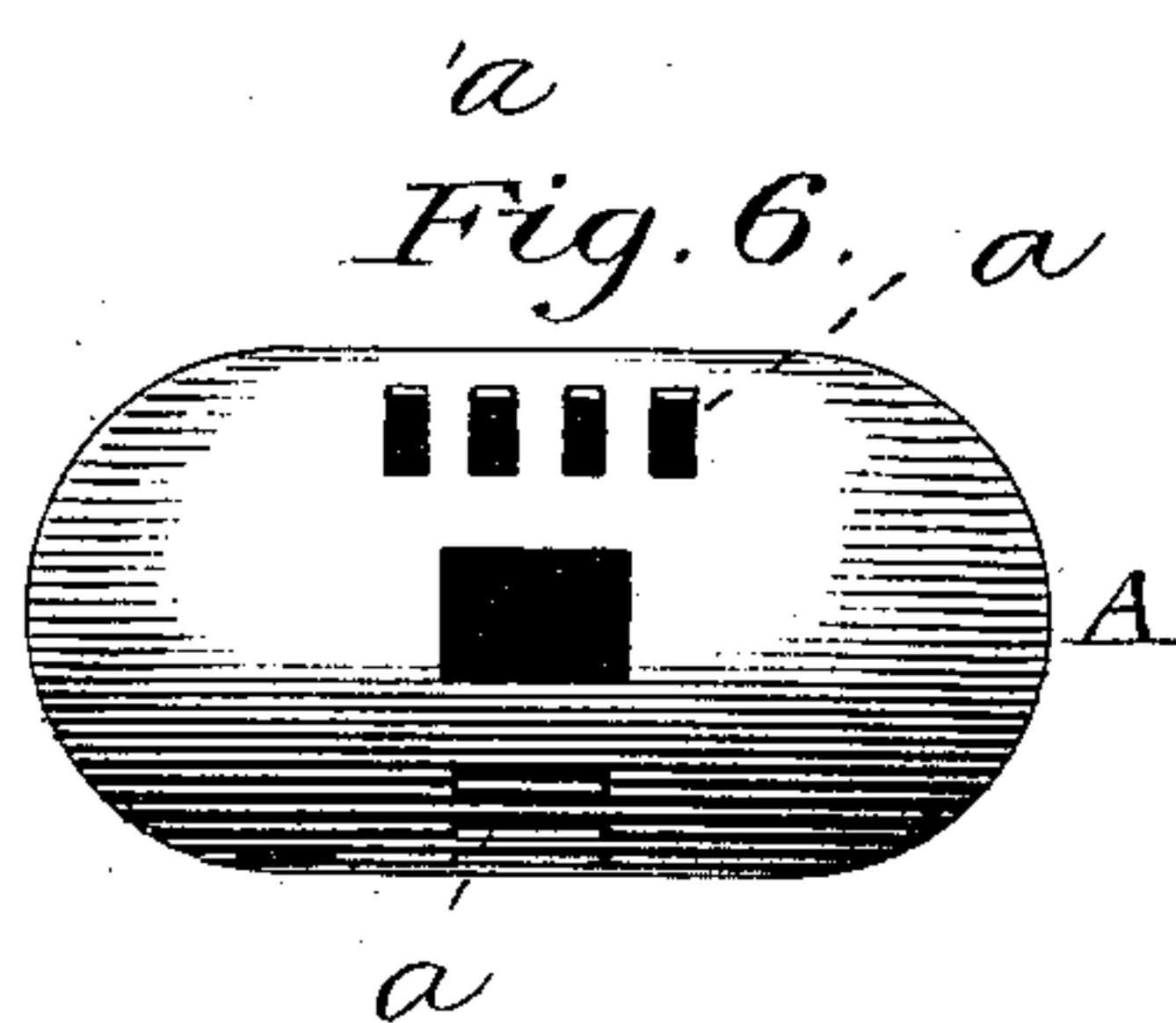
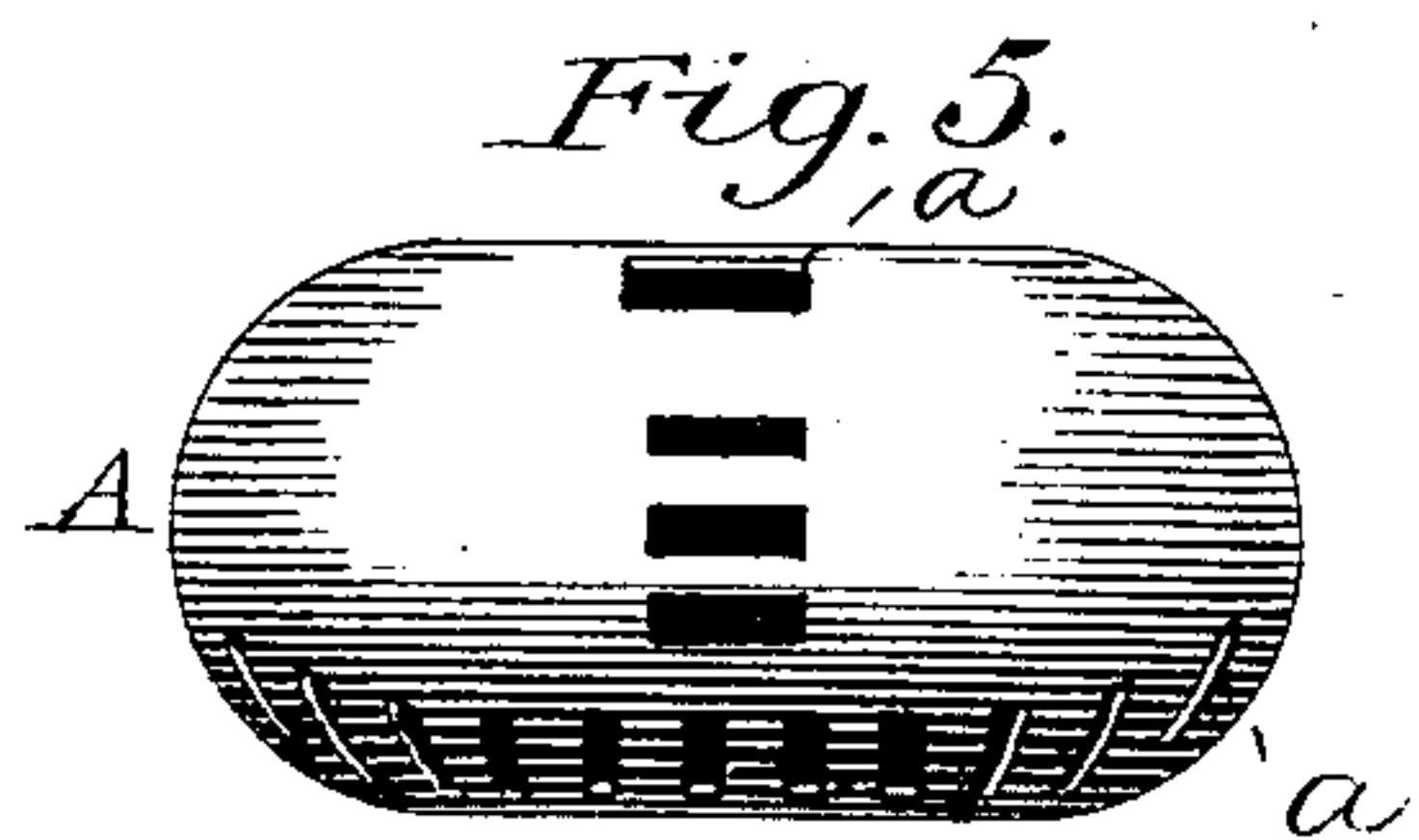
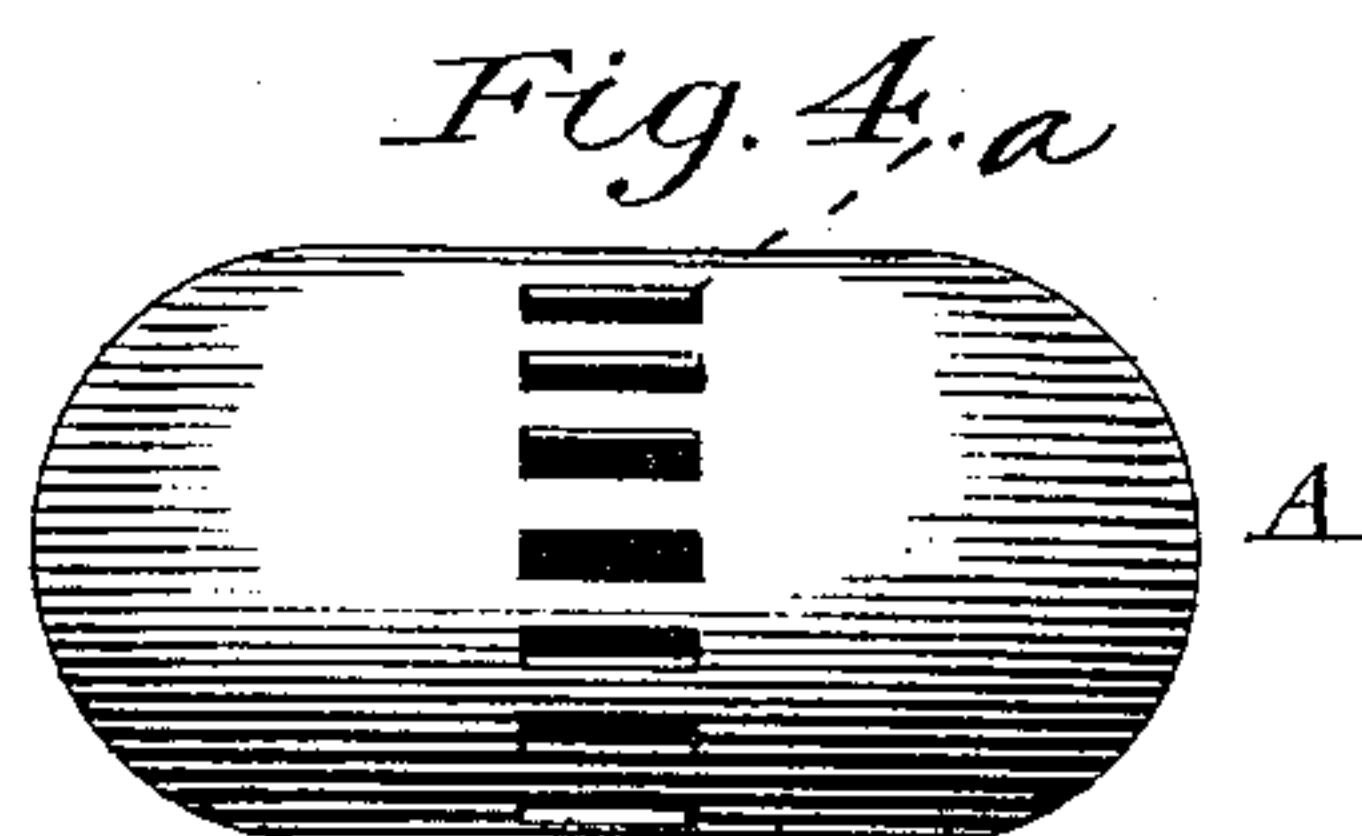
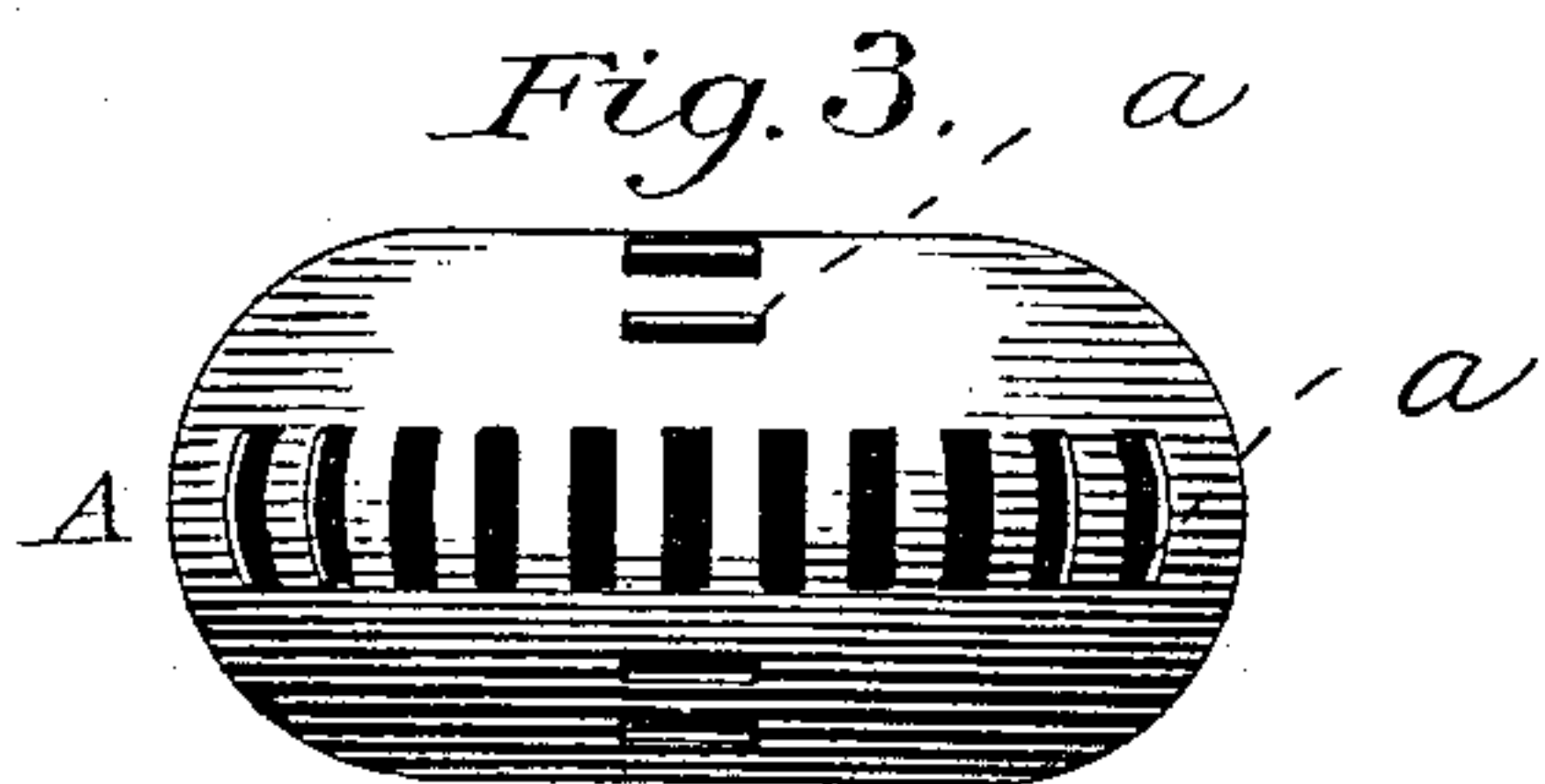
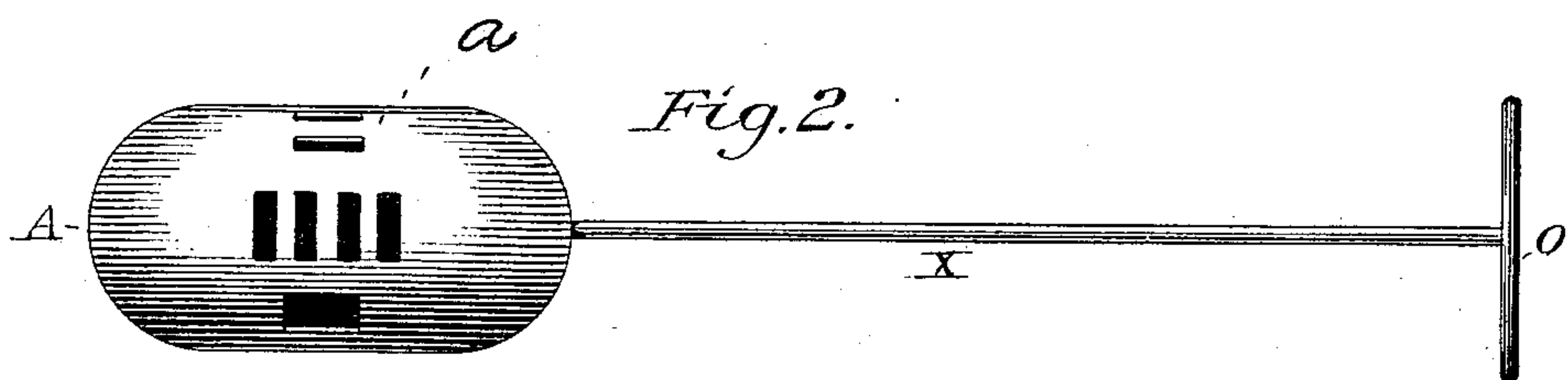
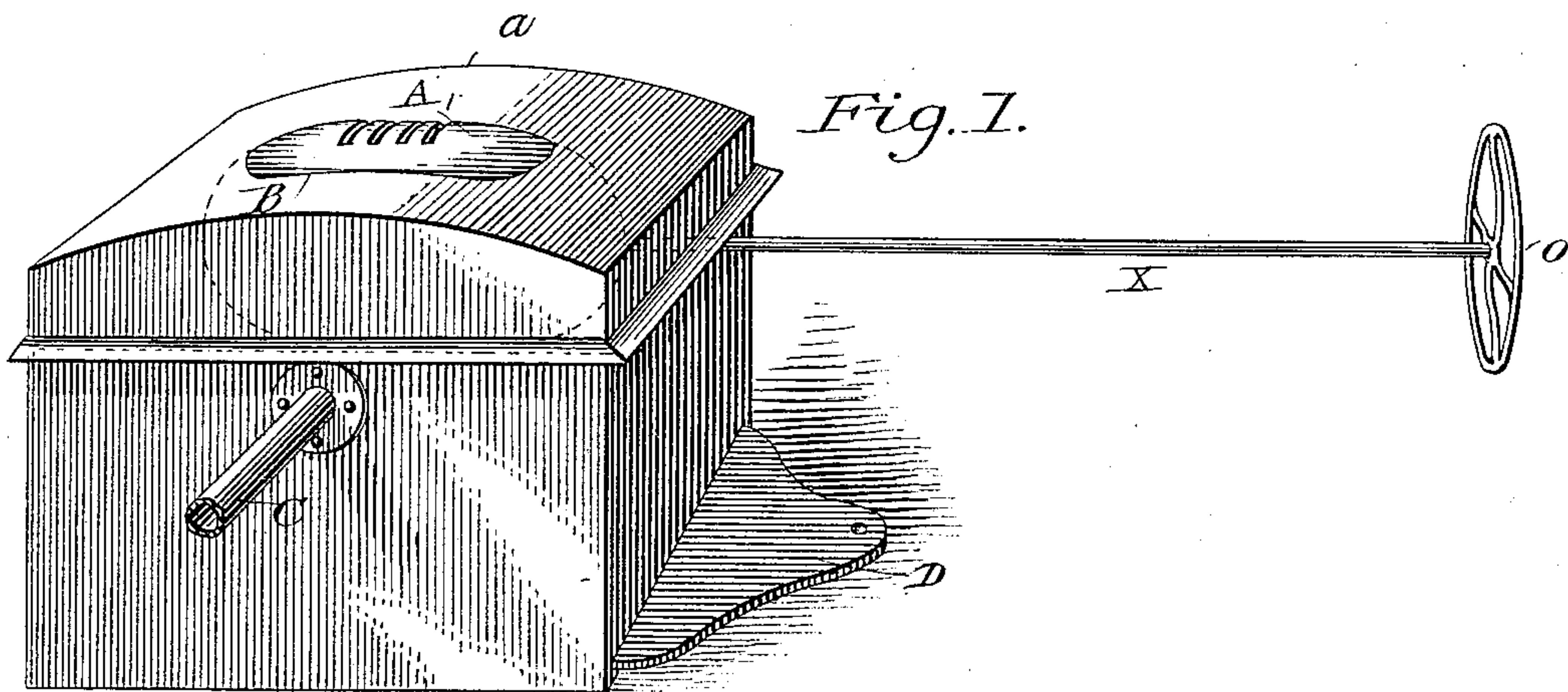
(No Model.)

W. G. MILLER.

TUYERE.

No. 338,543.

Patented Mar. 23, 1886.



Witnesses:

James Potter
Daniel Baxter

Inventor.

William G. Miller

UNITED STATES PATENT OFFICE.

WILLIAM G. MILLER, OF ARKANSAS CITY, KANSAS.

TUYERE.

SPECIFICATION forming part of Letters Patent No. 338,543, dated March 23, 1886.

Application filed July 24, 1885. Serial No. 172,576. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. MILLER, a citizen of the United States, at present residing at Arkansas City, county of Cowley, and State of Kansas, have invented certain new and useful Improvements in Blacksmiths' Tuyeres or Changeable Blasts in Iron-Workers' Forges, of which the following is a specification.

10 This invention is an improvement in tuyeres, and has for an object to provide a simple construction by which the admission of air to the fire may be regulated, so that the size, direction, and tensity of the fire may be readily
15 suited to the work it is desired to heat.

The invention consists in certain novel constructions and combinations of parts, as will be described, and pointed out in the claim.

20 In the drawings, Figure 1 is a perspective view of my improvement in position for use. Fig. 2 is a side view of the tuyere with its operating-shaft; and Figs. 3, 4, 5, and 6 are side views of the tuyere from different circumferential points, showing the various sets of air-
25 openings.

The air-case may be provided with a sliding bottom, D, and a pipe, C, leading from the bellows or other blowers. An opening, B, is formed through the top of this case, as shown.

30 The valve A is journaled in the air-case, so that its periphery moves in register with and slightly through the opening B, and the valve has a stem or shaft, X, whereby it may be turned. This shaft may have a hand-wheel, O, or other expedient, by which it may be
35 turned. It will be noticed that the valve has its ends rounded and that it is formed almost

oval in shape. By rounding the ends of the valve I am able to snugly fit it up through the opening in the air-case, so it will present
40 no angles or obstructions against which ashes or cinders might form and obstruct the free turning of the valve. This oval formation also produces but a slight agitation of the coals of the fire, as will be seen. Through this valve
45 I form perforations *a*, which, as shown in Figs. 2 to 6, are arranged in series extending in lines parallel and at right angles to the axis of the valve. These perforations prevent the
50 passage of the coals and enable the blast to be so applied as to increase the fire in the direction of formation thereof. It will be seen that these series are formed in sets or gangs through
55 different segments of the valve, and the latter may be rotated to adjust either of such segments under opening B in the case, which opening is usually made, as shown, to expose
60 about one-fifth of the surface of the cylinder to the heat of the fire.

The formation of the perforations of the valve enables the operator to elongate the blast in any manner desired to suit the work being heated.

Having thus described my invention, what I claim as new is—

65 In a tuyere, a hollow rotatable valve provided with perforations extended in series in line with and at right angles to its axis and formed in sets or gangs through different segments of the case, substantially as set forth.

WILLIAM G. MILLER.

Witnesses:

A. J. CHAPEL,
ED. L. KINGSBURY.