

W. E. RISHER.

Tuyere.

No 62,072.

Patented Feb. 12, 1867.

Fig. 1

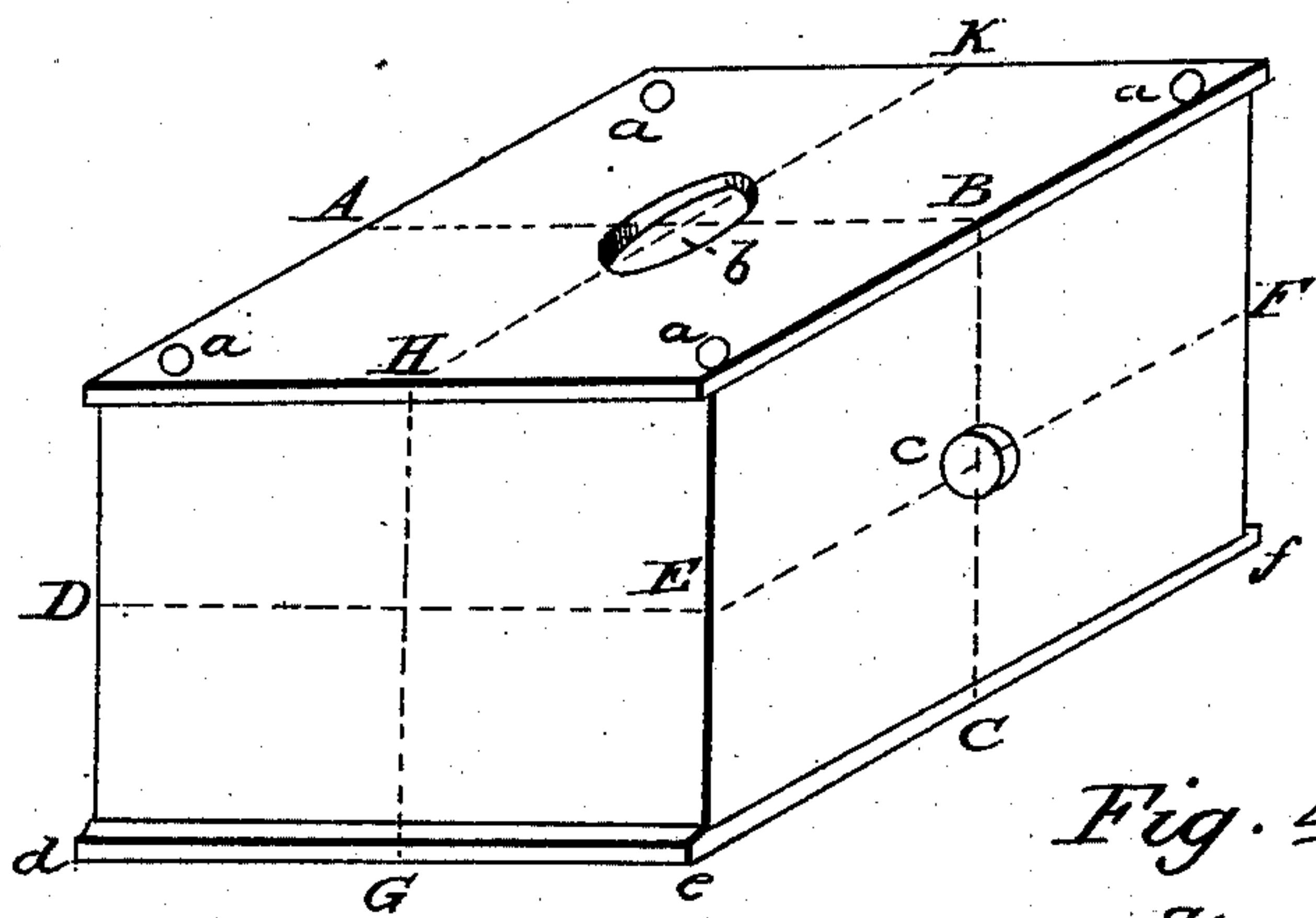


Fig. 2

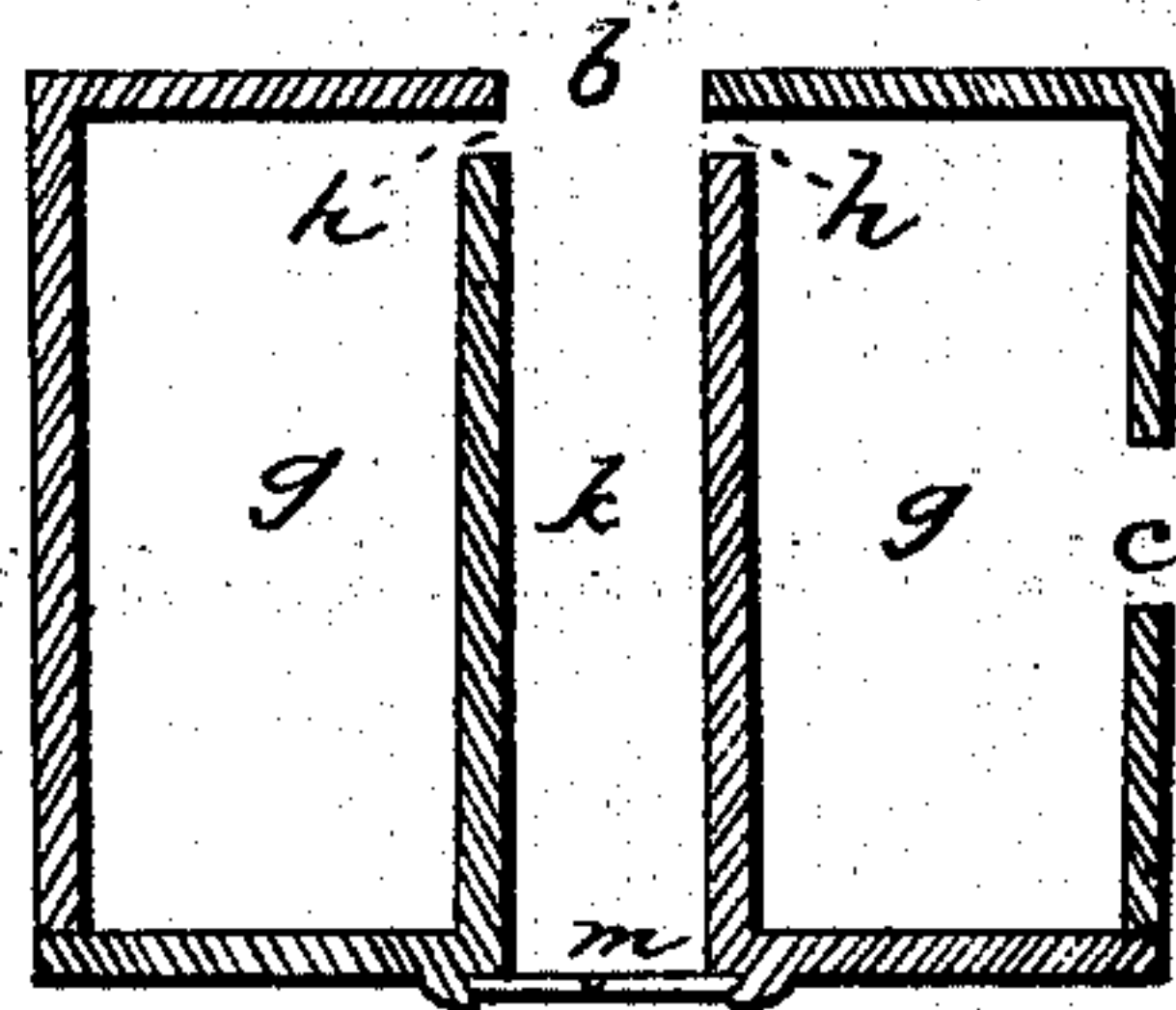


Fig. 4



Fig. 3

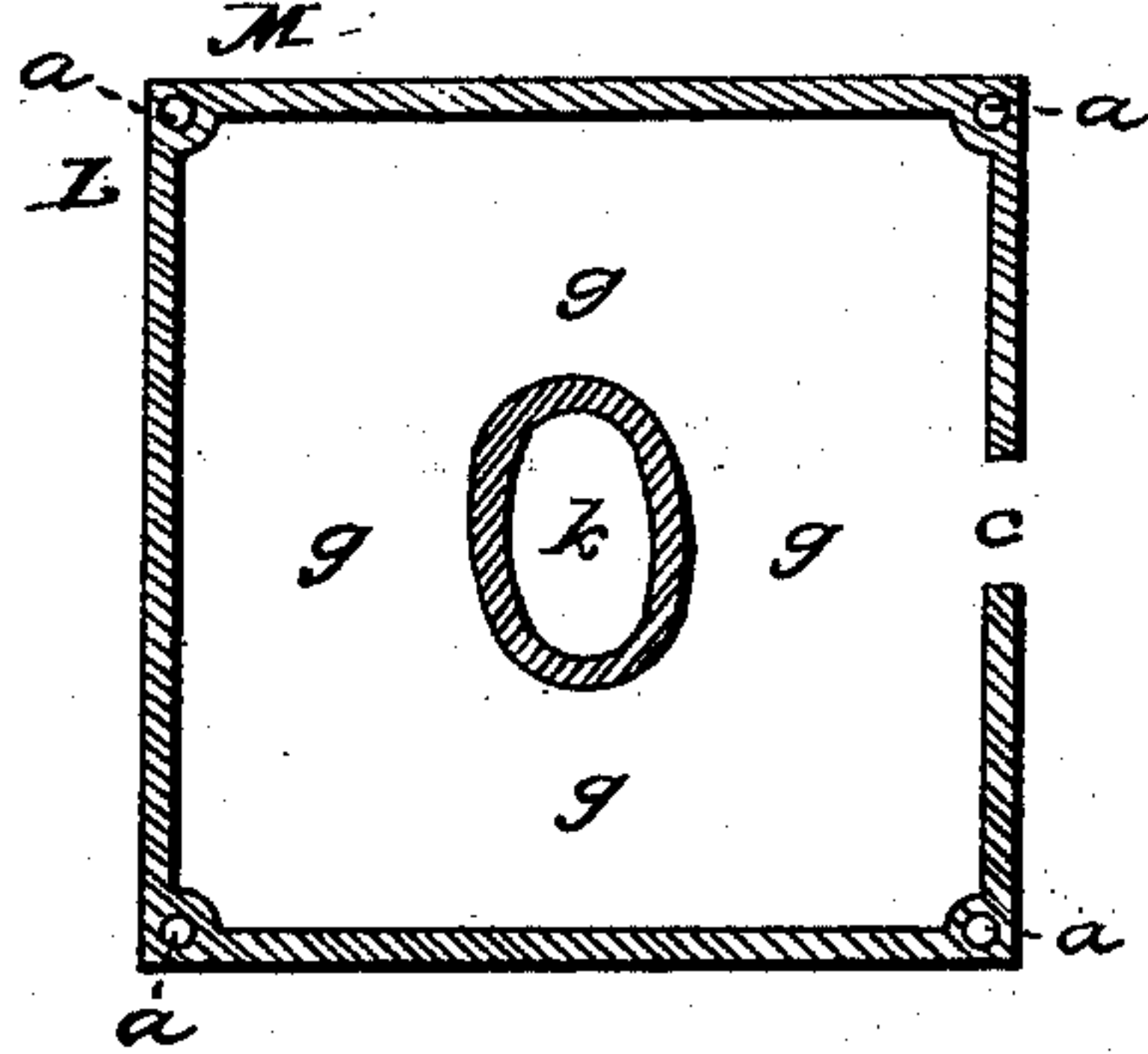


Fig. 5

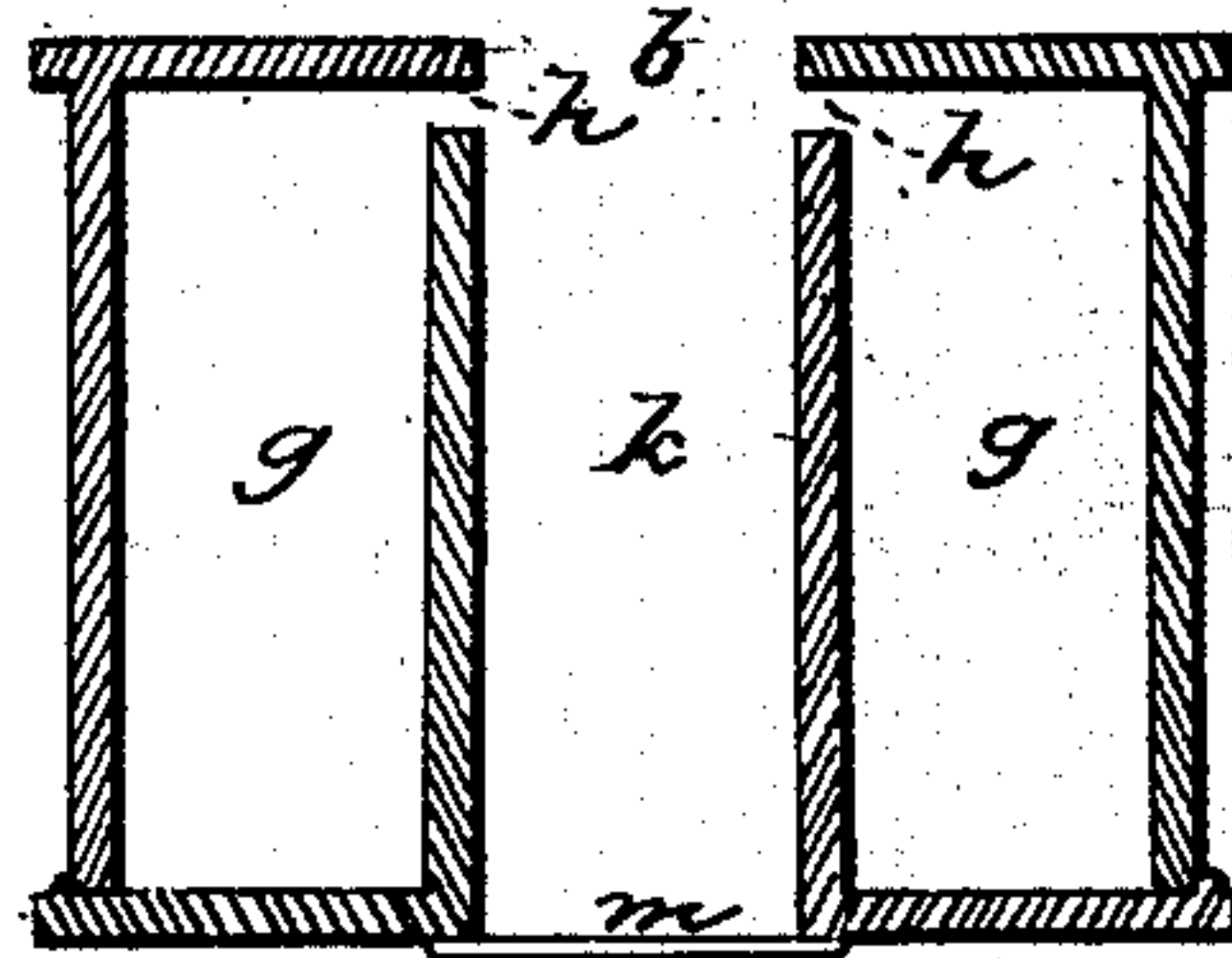
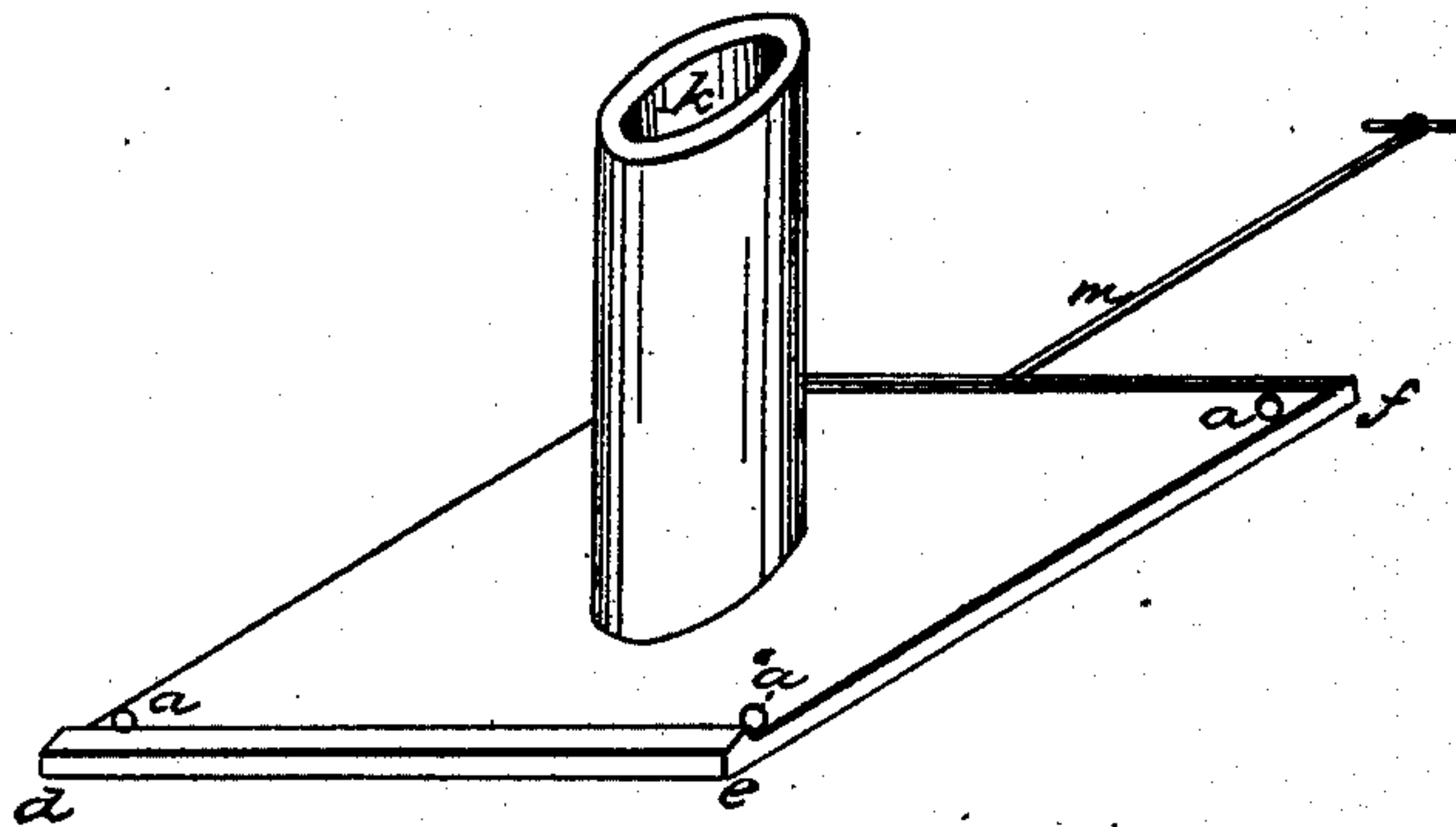


Fig. 6



United States Patent Office.

WILLIAM E. RISHER, OF AUSTIN, TEXAS.

Letters Patent No. 62,072, dated February 12, 1867.

SMITH'S FORGE.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM E. RISHER, of the city of Austin, in the county of Travis, in the State of Texas, have invented an improvement of the Smith's Forge; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure I is a perspective view.

Figure II, a section through the points A B C of Fig. I.

Figure III, a section through the points D E F of Fig. I.

Figure IV, a section through L and M of Fig. III; and

Figure V, a section through the points G H K of Fig. I.

Figure VI is a perspective view of the bottom plate *d e f*, of Fig. I, showing the elliptical cylinder inside of the box.

The improvement consists of a cast-iron box, Fig. I, whose sides and top plate are in one piece, and the bottom plate and elliptical cylinder also cast in one piece, (see Fig. VI.) Both are connected by bolts and screws at the bottom, as indicated by the letters *a*, and by the section Fig. IV. The elliptical opening in the top plate is two inches long and one and a quarter inch wide, and the circular opening in the side plate *c* about one inch in diameter, according to the size of the mouth-piece of the bellows. The distance between the end of the cylinder and the top plate, and indicated in the drawing by the letters *h*, is about one-fourth inch, varying with the diameter of the mouth of the bellows. The letter *m*, in Figs. II, V, and VI, represents the slider with its handle, by which the lower opening of the cylinder may be opened and closed at pleasure.

The box so arranged is inserted in such a way into the hearth of the smith's forge, that the top plate is even with the hearth, and the handle to the sides projecting far enough beyond the hearth to admit the convenient opening and shutting of the cylinder. Into the circular hole *c*, the mouth-piece of the bellows is screwed. By kindling the fire over the elliptical opening, the latter will receive the ashes, slag, and so on, till the cylinder is filled, when the slider is drawn, and thereby the dross removed. By this arrangement the refuse matter is prevented from hindering the full action of the wind, and besides, the air in the space marked *g*, surrounding the cylinder, becoming hot, will increase the action of the smith's fire. For other dimensions reference is made to the drawings.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The construction of the tuyere with a central chamber *k*, into which the ashes, cinders, and other matters collect, said chamber having a passage between its upper end and the fire-bed plate of the tuyere, so that the air of the bellows or blast nozzle shall circulate in a chamber outside of the chamber *k*, and pass up to the grate through the space which is between the fire-bed plate and the upper edge of chamber *k*, all substantially as and for the purpose set forth.

2. The construction of the tuyere, substantially in the manner and for the purpose described.

W. E. RISHER.

Witnesses:

P. J. PLUMB,
G. T. ALLEN.