

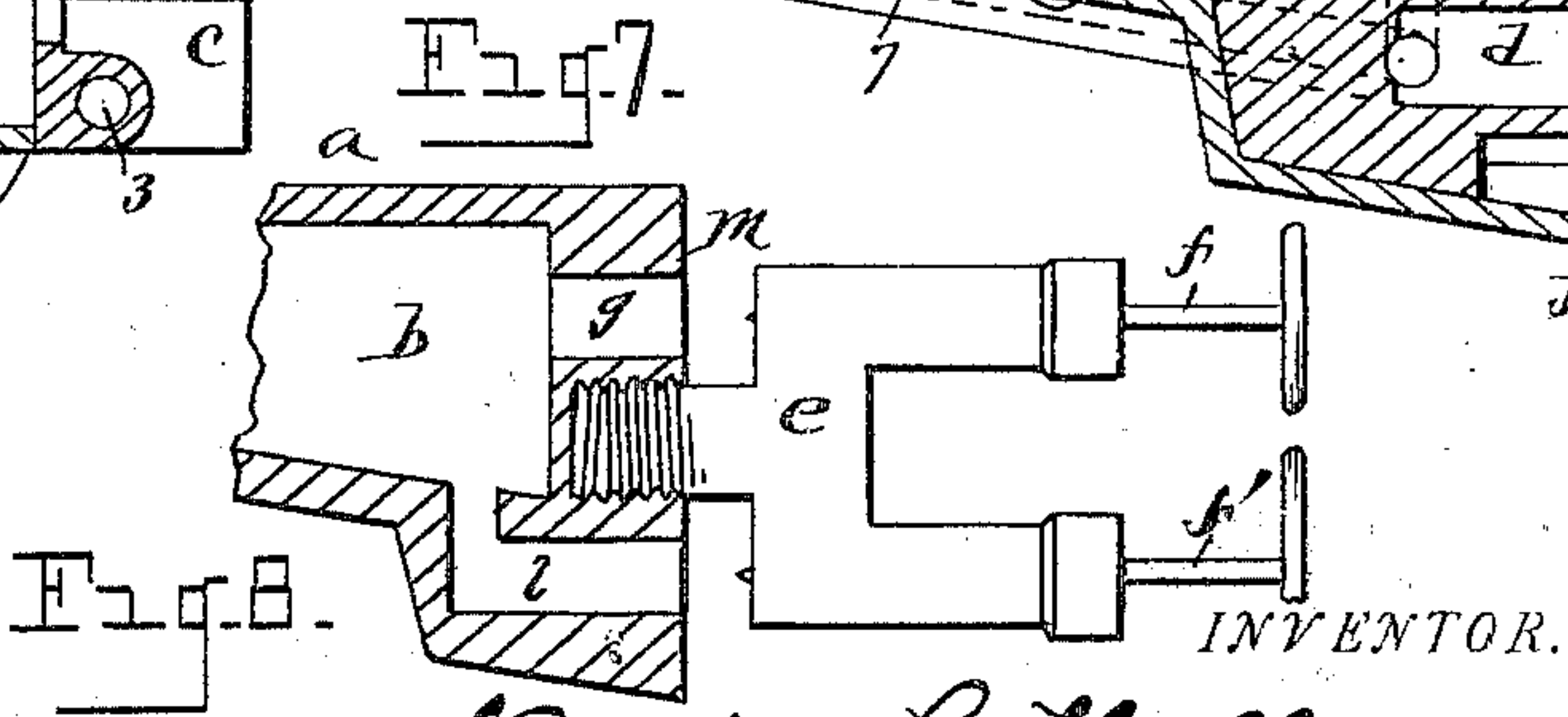
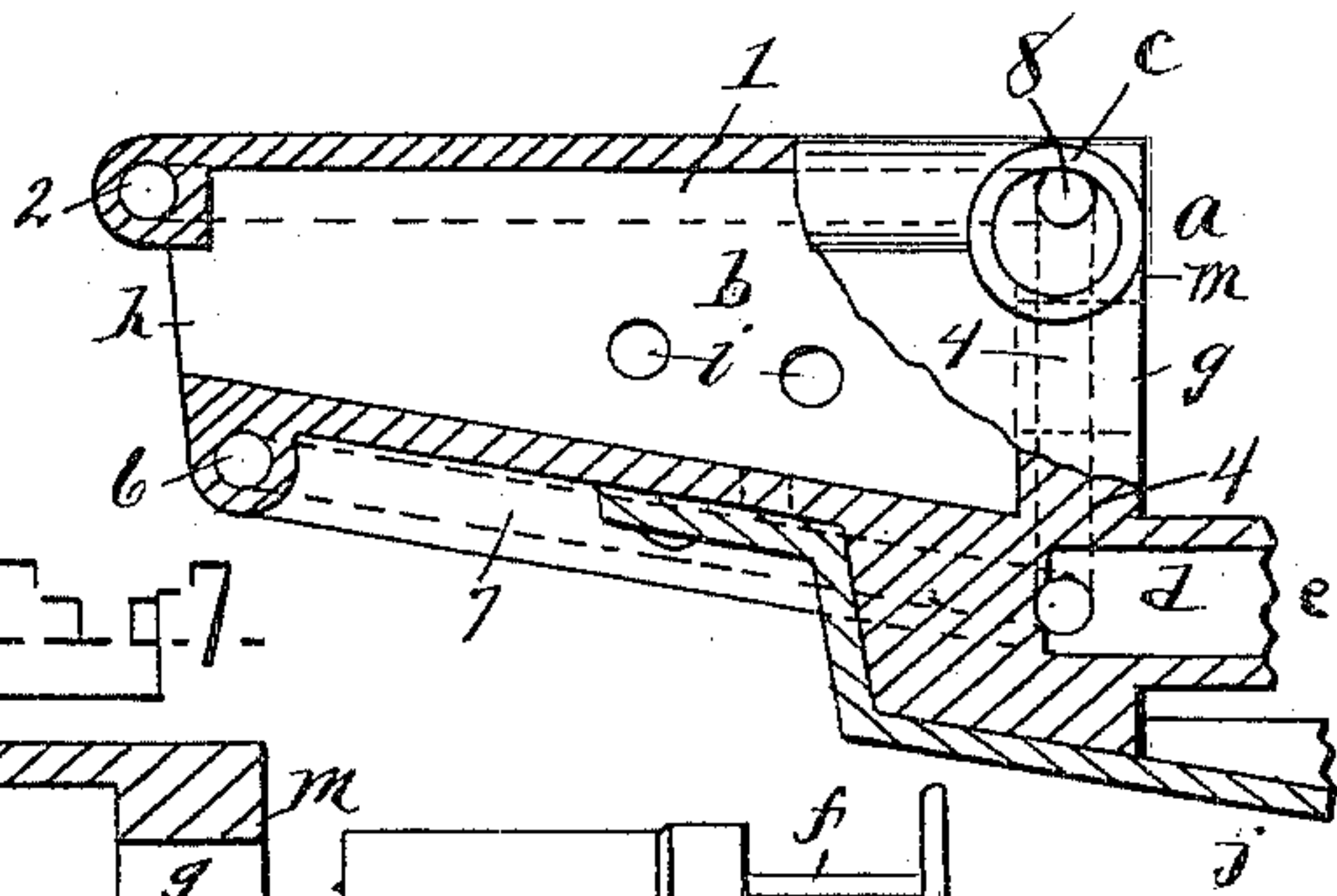
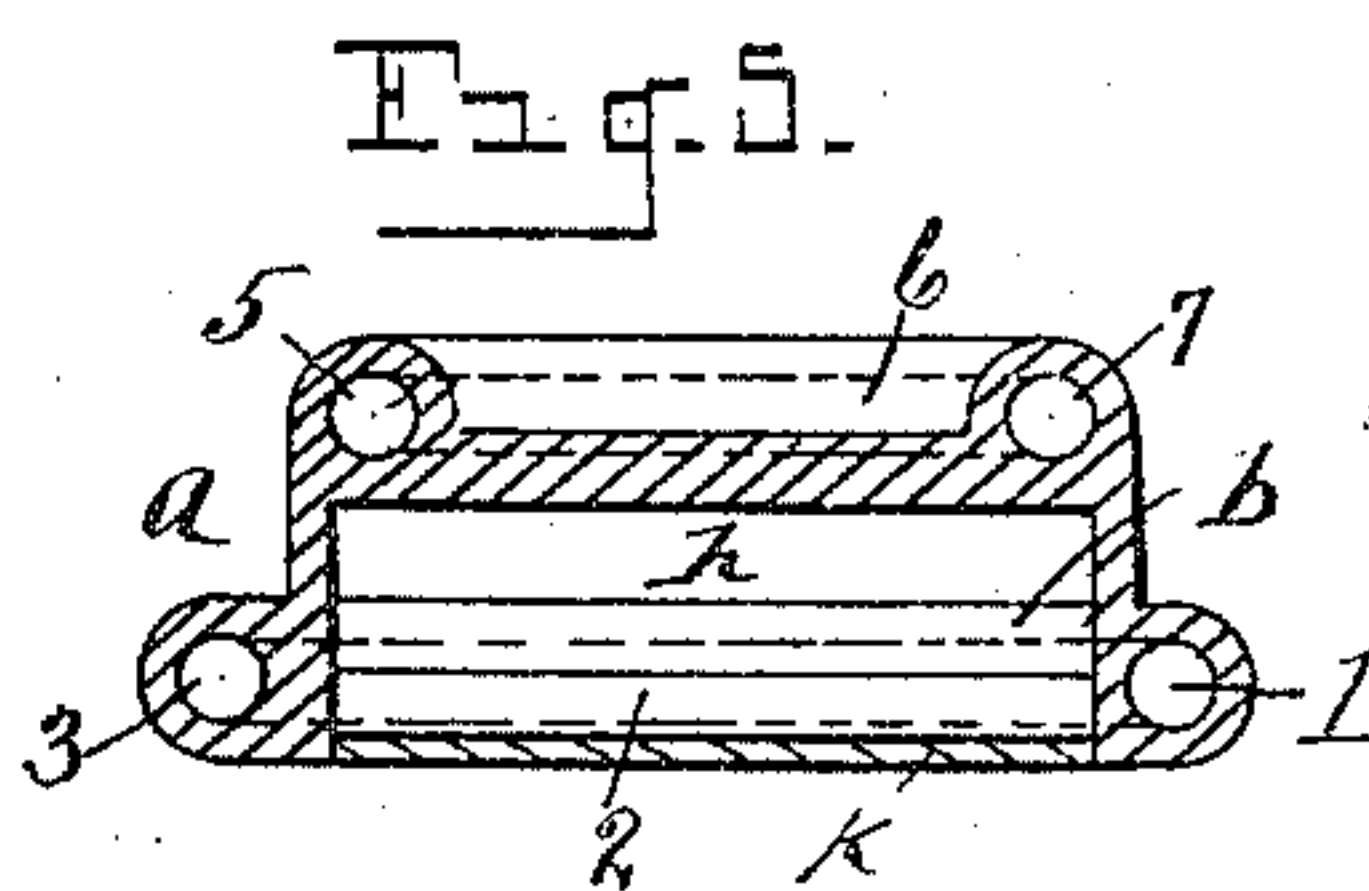
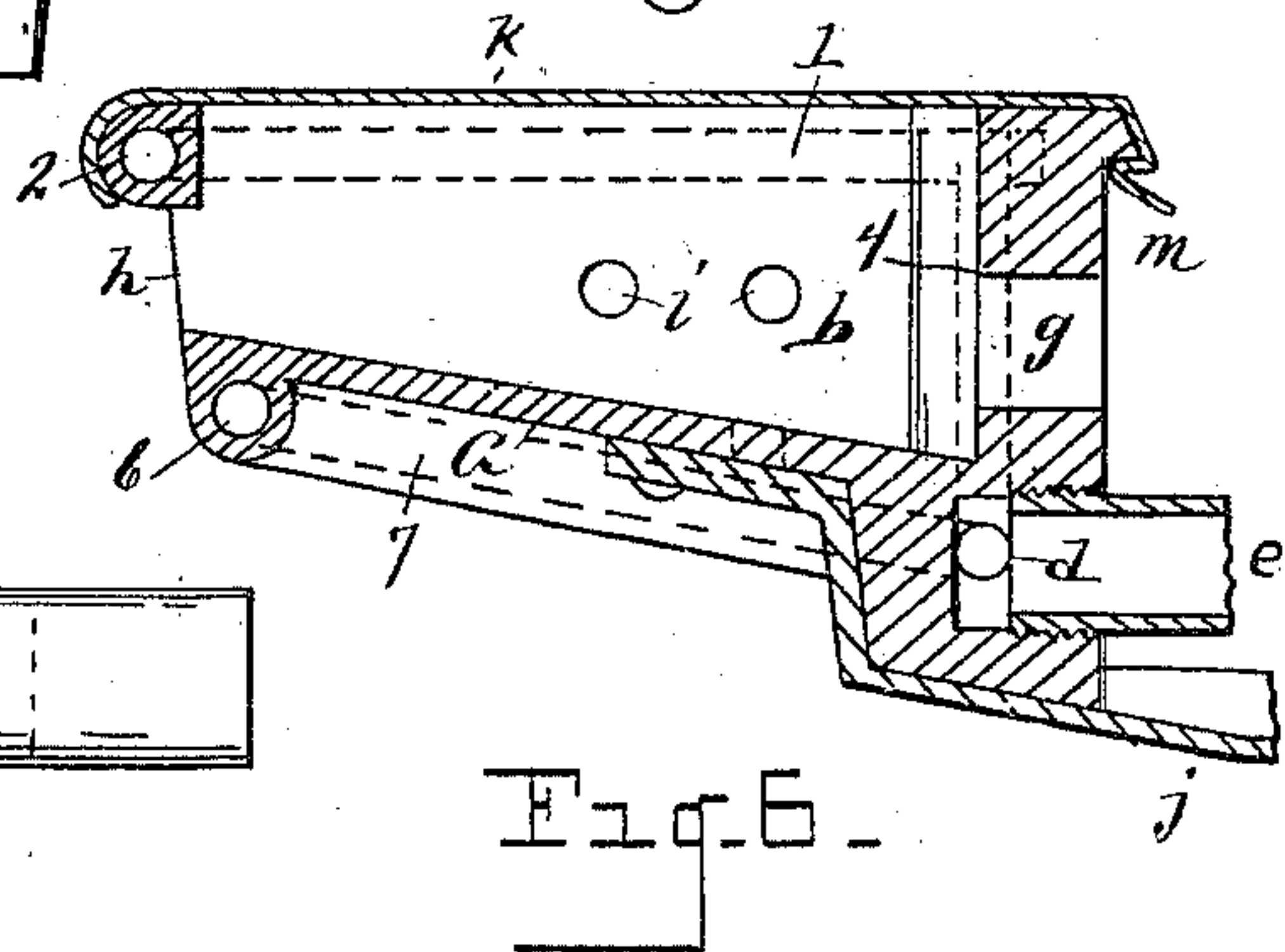
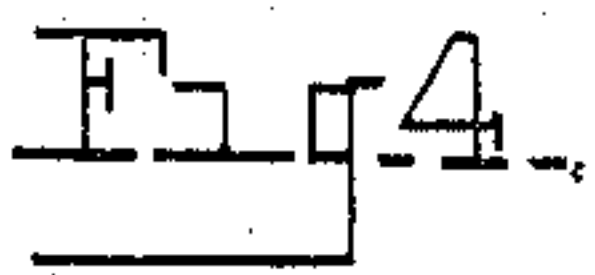
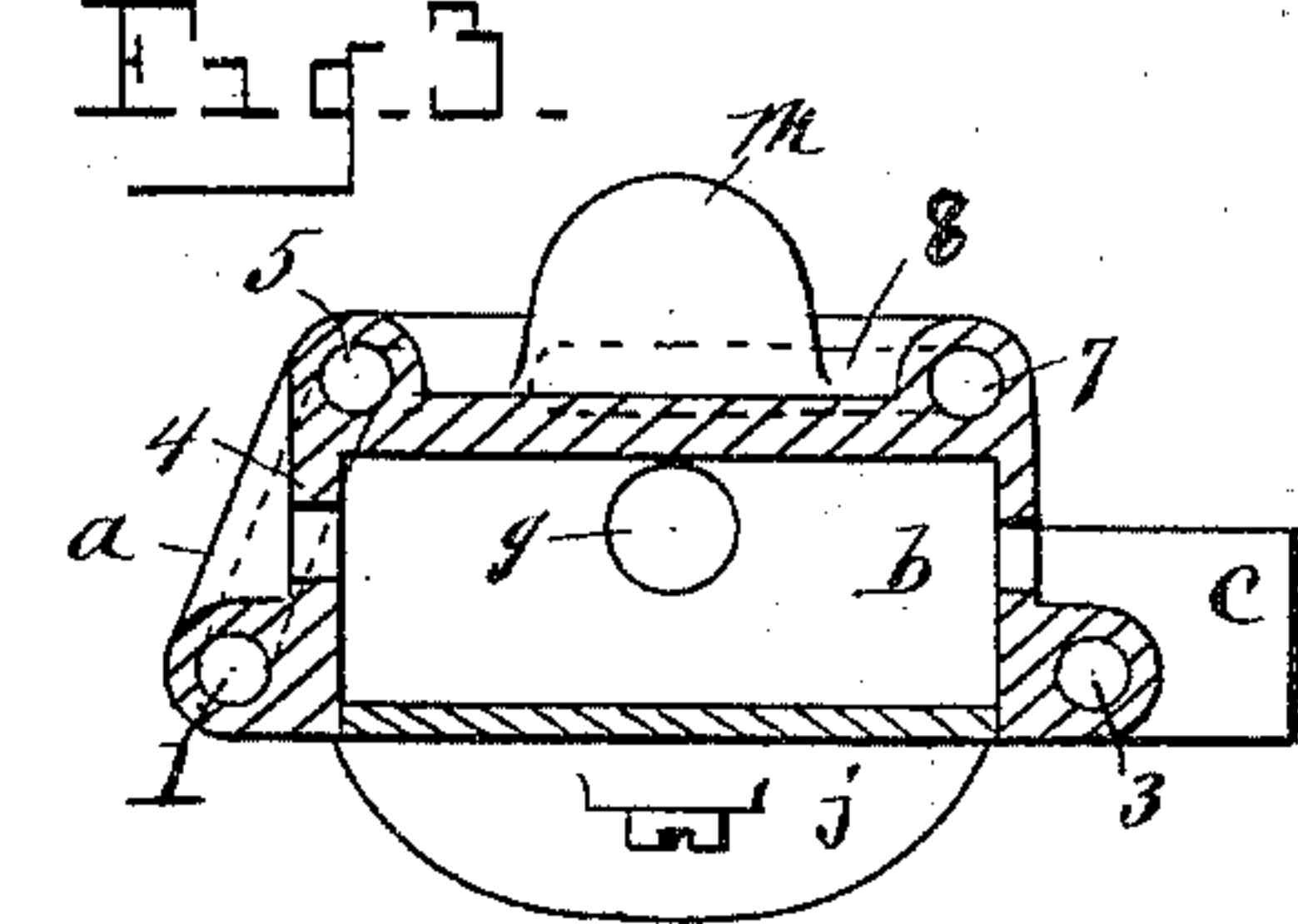
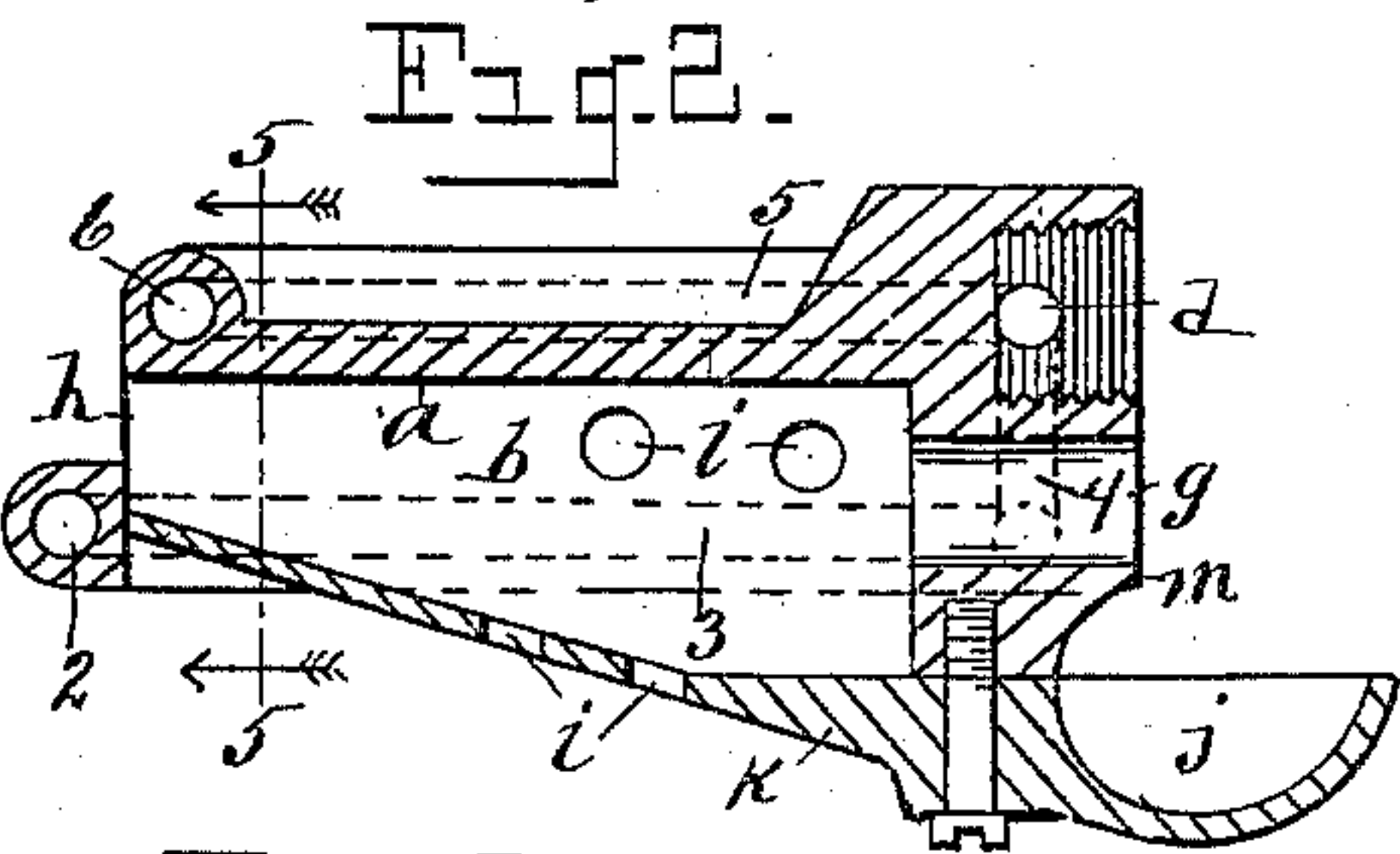
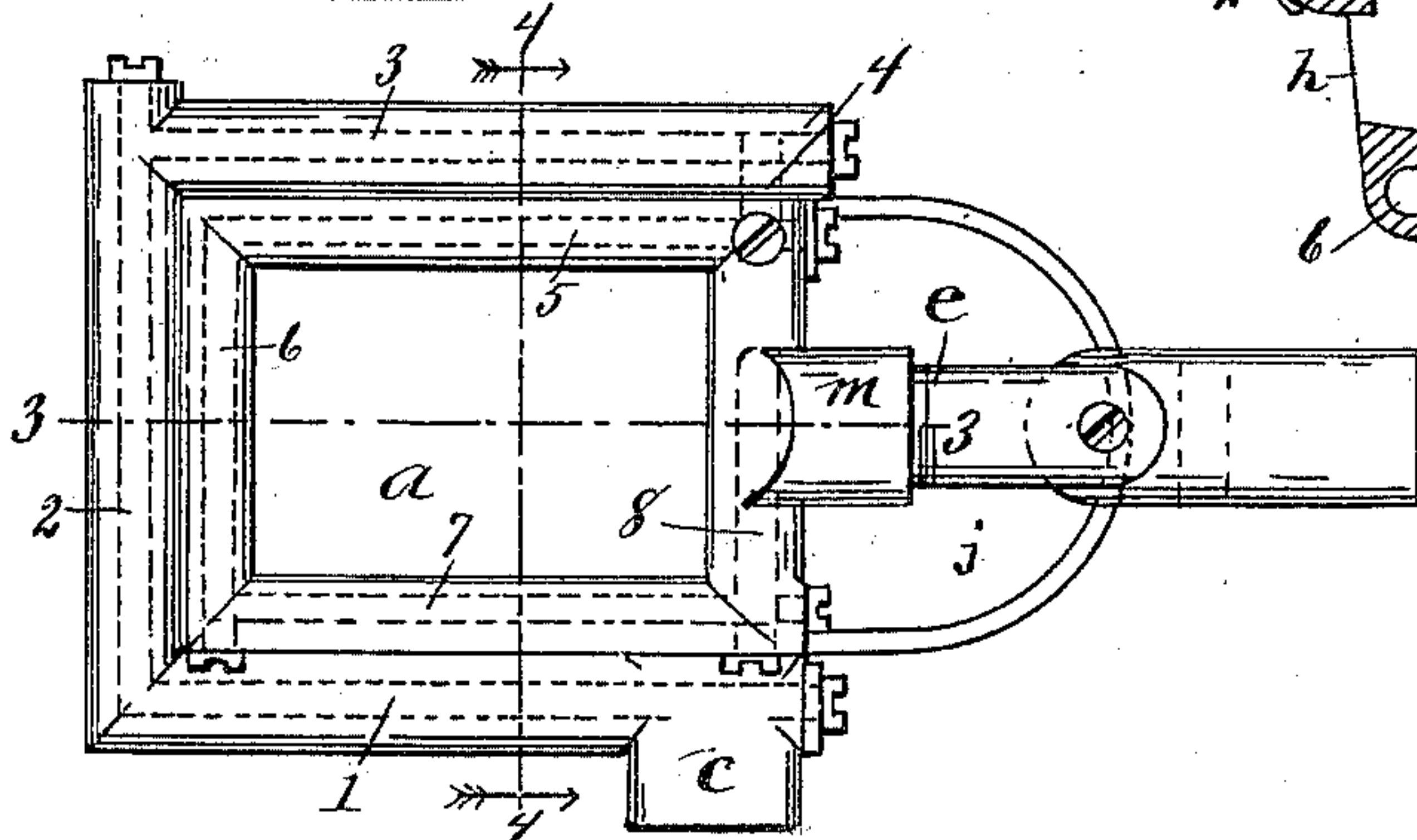
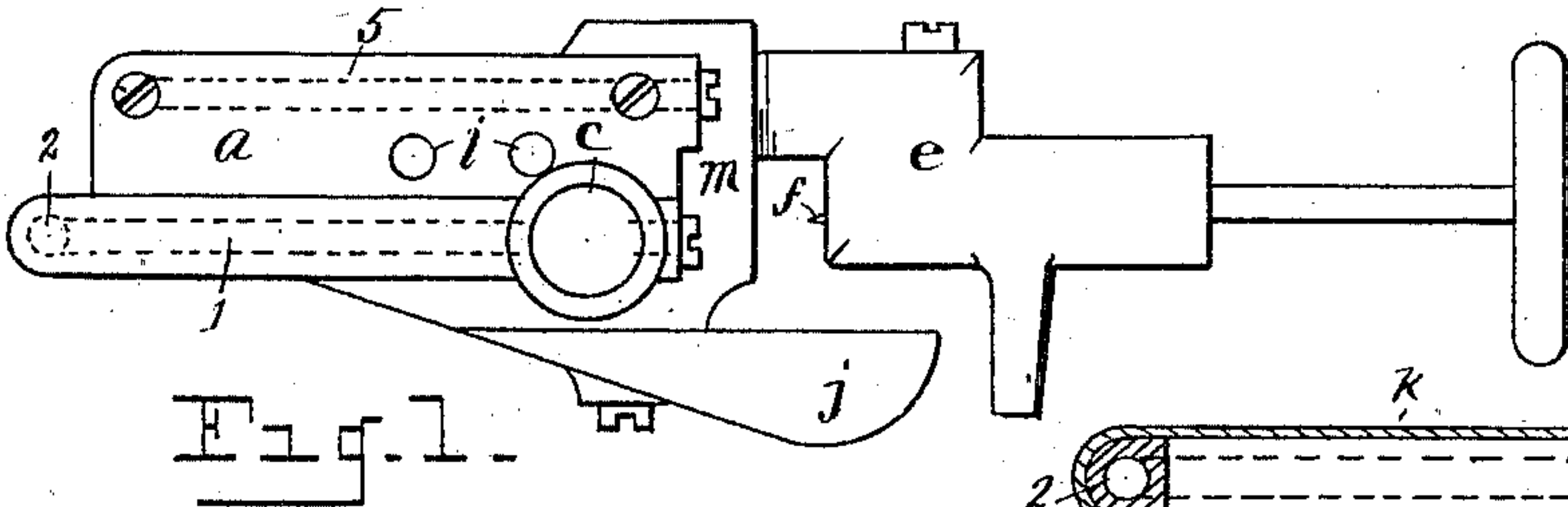
No. 725,078.

PATENTED APR. 14, 1903.

C. L. HALL.
GASOLENE BURNER.

APPLICATION FILED OCT. 19, 1901.

NO MODEL.



WITNESSES.

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UNITED STATES PATENT OFFICE.

CASSIUS L. HALL, OF YPSILANTI, MICHIGAN, ASSIGNOR TO PHILLIPS AND HARMON, OF NORTHVILLE, MICHIGAN, A FIRM.

GASOLENE-BURNER.

SPECIFICATION forming part of Letters Patent No. 725,078, dated April 14, 1903.

Application filed October 19, 1901. Serial No. 79,228. (No model.)

To all whom it may concern:

Be it known that I, CASSIUS L. HALL, a citizen of the United States, residing at Ypsilanti, county of Washtenaw, State of Michigan, have invented a certain new and useful Improvement in Gasolene-Burners; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention pertains to a gasolene-burner of novel and superior construction; and it consists of the construction hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a plan view. Fig. 3 is a section on the line 3 3, Fig. 2. Fig. 4 is a view in section on the line 4 4, Fig. 2. Fig. 5 is a view in section on the line 5 5, Fig. 3. Fig. 6 is a longitudinal section showing a modification of construction. Fig. 7 is a similar view illustrating another modification. Fig. 8 illustrates a modification embodying a subflame-burner.

More particularly, my invention has for its object a gasolene-burner provided with double generating-ducts, either made with a cored casting or otherwise, as may be preferred, and whereby the generation of vapor may be more rapidly accomplished than with burners of this class heretofore in use.

My invention is especially designed for plumbers' and soldering furnaces, for torches, for brazing, and for other uses for which it may be found adapted.

As shown in the drawings, *a* denotes the main wall of the furnace, forming an interior mixing-chamber *b*, provided with a feed-inlet portion *c* and with a discharge-orifice *d* to communicate with a valve-case *e*, the said valve-case provided with a valve *f*, controlling the discharge of the generated vapor into the chamber *b*, as through an adjacent inlet-opening *g*. The chamber *b* is formed with a discharge-opening *h*. The wall *a* may be formed with a double generator arranged in different forms within the scope of my invention. Thus starting from the feed-inlet *c* the wall *a* is formed with generating-ducts 1 2 3,

running around three sides of said wall and toward one face thereof. From the duct 3 the generating-duct proceeds at right angles to the duct 3, as at 4. Thence said duct runs again around three sides of the wall and toward the opposite face of said wall, as shown at 5 6 7. Thence said generating-duct proceeds, as at 8, to the discharge-opening *d* of the wall, through which it is discharged into the valve-case *e*, provided with the vapor-controlling valve *f*, governing the discharge of the vapor into the inlet-opening *g*. The wall is formed with suitable air-inlet openings *i*.

A drip-pan is indicated at *j*.

The discharge-opening *h* is elongated, as shown.

In Figs. 7 and 8 the wall is shown formed of a cored casting. In other figures the body of the wall is provided with a plate *k*.

In Figs. 6 and 7 the wall or body of the burner is shown in inverted position from that illustrated in Figs. 1 to 5.

Where the burner-wall is made of a cored casting, the drip-cup *j* may be made separate and secured to said wall, as shown on Fig. 7. So, also, when the body of the burner is inverted, as shown in Fig. 6, and provided with a plate *k*, the drip-cup may be made separate and attached to the body of the burner. In Fig. 3 the drip-cup is shown formed as a part of the plate *k*.

In Fig. 8 I have shown a construction to provide for a subflame. This may be accomplished by forming the wall of the burner with an inlet-orifice *l*, communicating with the chamber *b*, the valve-case *e* being provided with an additional valve *f'* to control the discharge of vapor into the inlet *l*. It will be seen that the discharge of vapor into the chamber *b* through the opening *g* will draw the vapor discharged through the opening *l* toward the discharge end of said chamber and that when the valve *f* is closed a small flame may be kept by means of the subflame provision above described, so that the burner may be constantly kept heated.

The wall of the body of the burner when formed of an ordinary casting may be open either at the top or at the bottom.

If the body of the burner be inverted, as shown, for example, in Fig. 7, the feed-inlet

e would be at the top, otherwise at the bottom, of said body.

The provision of the double generating-chamber around both the bottom and the top of the burner will obviously very greatly increase the efficiency of the burner.

Where the casting of the burner is open at one side more especially, the duct 2 is preferably formed in a cross-arm of the wall projecting beyond the discharge-opening *h* to facilitate the drawing of the casting from the sand.

The inlet-opening *g* and the threaded orifice for the connection of the valve-case with the body of the burner may be formed in a vertical rib *m*.

What I claim as my invention is—

1. A gasolene-burner, having an inclosing wall forming a single interior mixing-chamber constructed with an elongated discharge-orifice at one end thereof, said wall being provided with communicating vaporizing-ducts leading about said chamber at the top and at the bottom thereof forming a double generator, a valve-case arranged to receive vapor from said ducts and provided with a vapor-discharge orifice, a valve to control the discharge from said valve-case, said wall being provided with an inlet-orifice adjacent to the

discharge-orifice of the valve-case, and with a feed-inlet orifice leading into said ducts, the ducts at the top of said wall rising above the body of the wall, and the ducts at the bottom of said wall projecting laterally and at one end from the body of the wall.

2. A gasolene-burner having an inclosing wall forming an interior mixing-chamber constructed with a discharge-orifice at one end thereof and with an inlet-orifice at the opposite end thereof, one face of said wall formed with communicating vaporizing-ducts running around the marginal edges of said face, the opposite face of said wall formed with communicating vaporizing-ducts running around the marginal edges of said face and communicating with the ducts on the opposite face, said wall being provided with an inlet-orifice leading into one end of said ducts, a valve-case communicating with the opposite end of said ducts, and a valve to control the discharge from said case into the inlet-orifice of the burner.

In testimony whereof I sign this specification in the presence of two witnesses.

CASSIUS L. HALL.

Witnesses:

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J. M. POLAND.