2 Sheets. Sheet 1.

E. May,

Casting Bullets.

No. 35,320. Patented May 20, 1862.

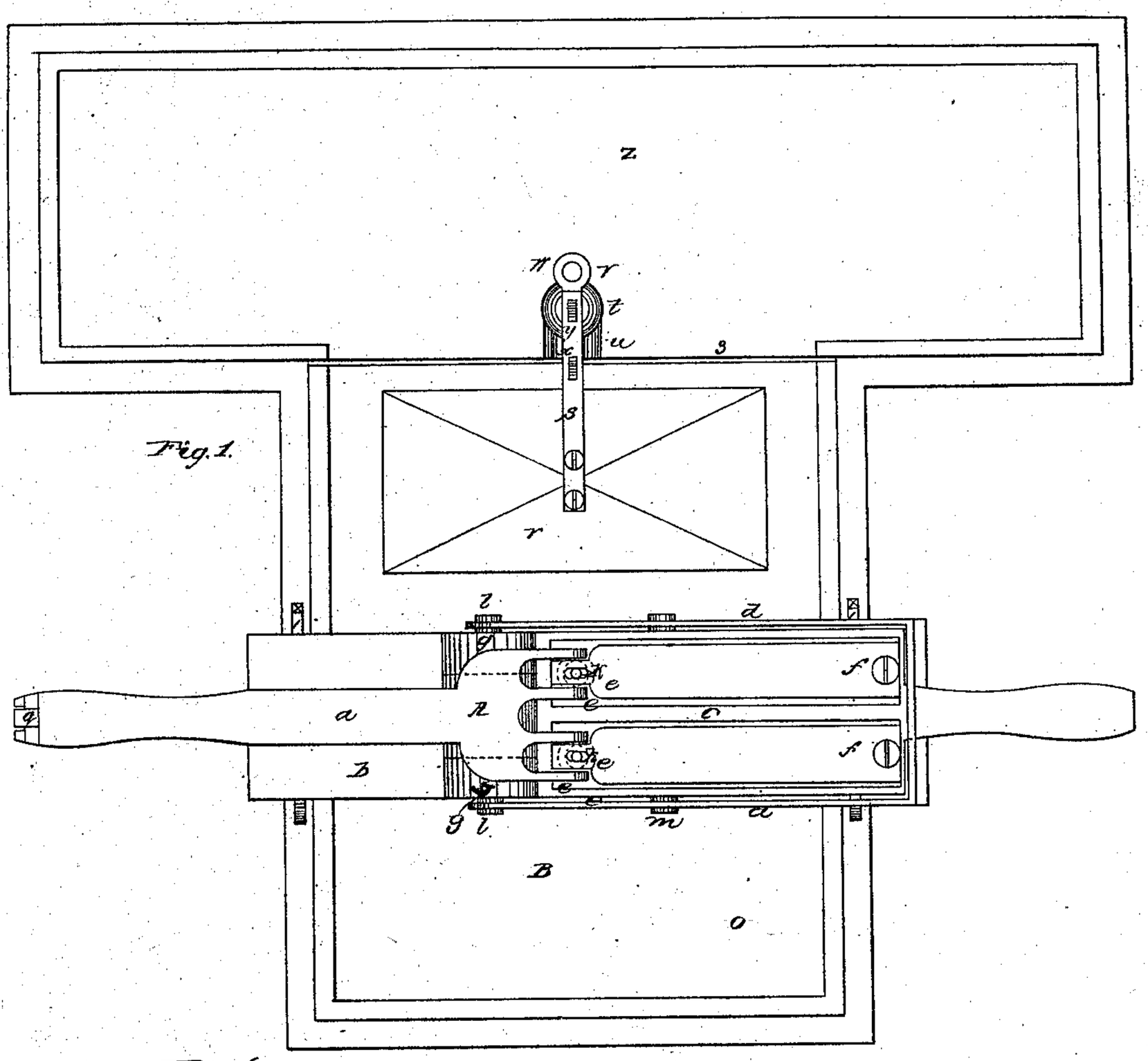


Fig. 1.

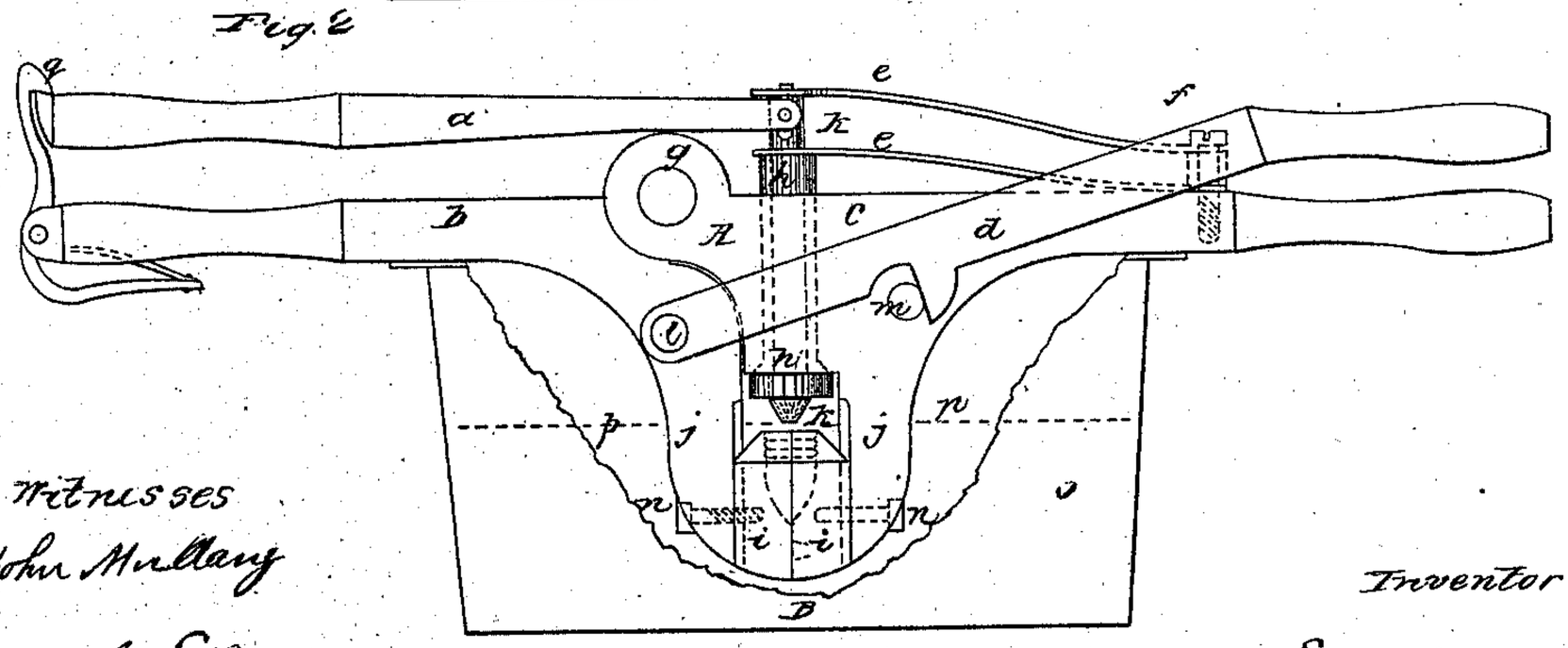


Fig. 2

Witnesses
John Mullany
E. A Elder

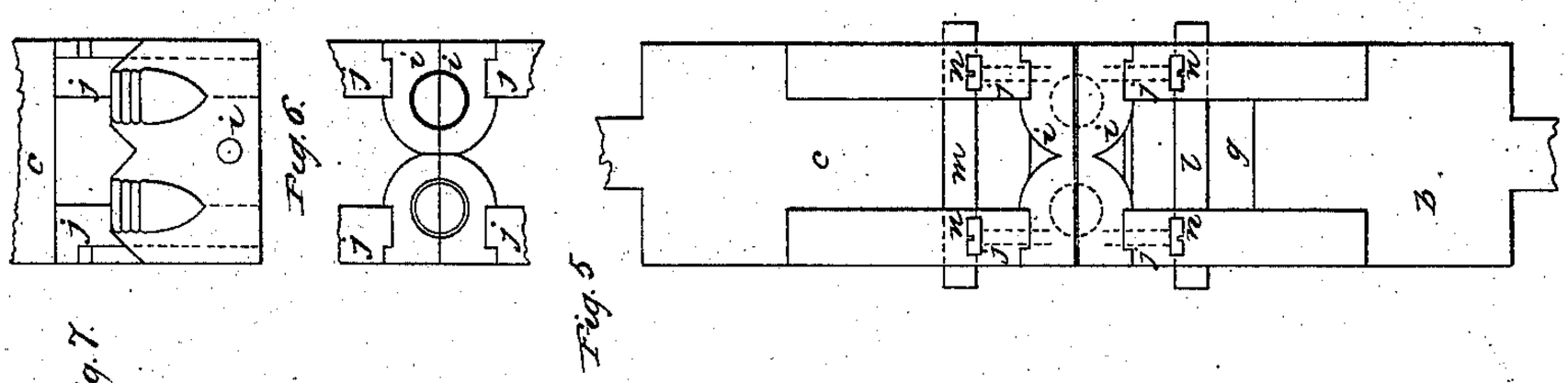
Inventor
Edwin May

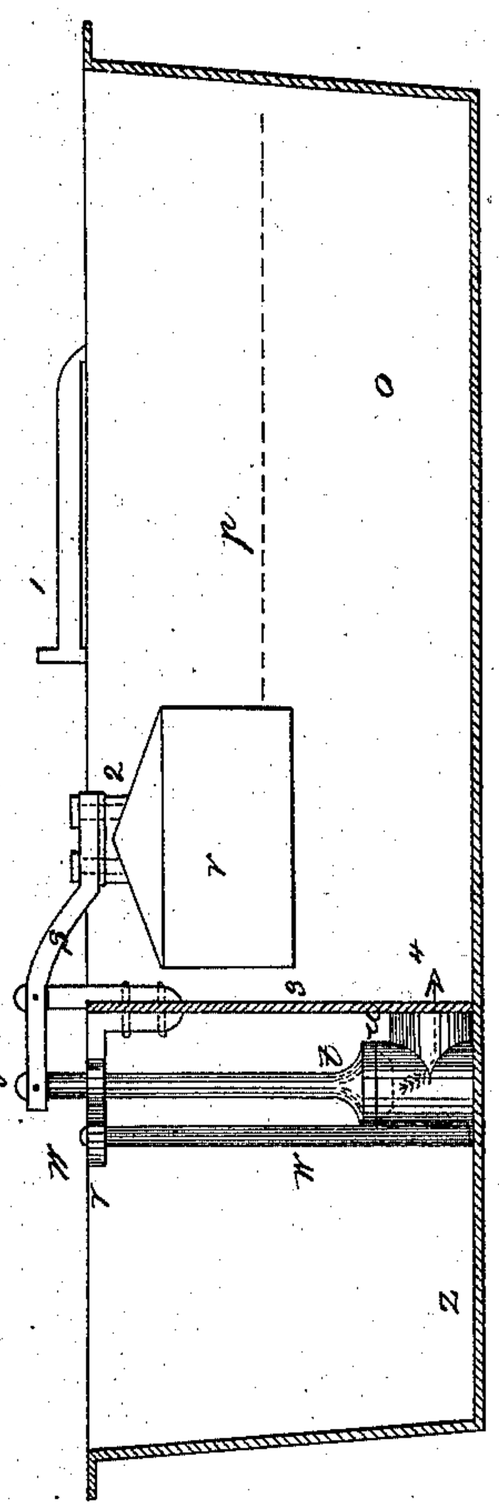
2 Sheets. Sheet 2.

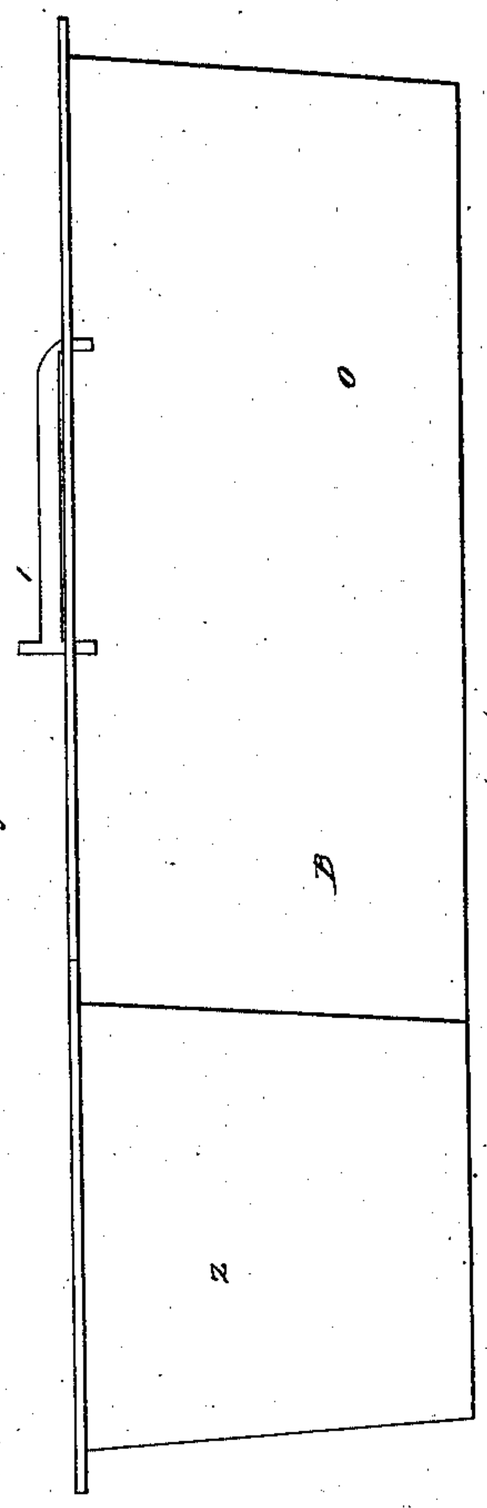
E. May,

Casting Bullets.

No. 35,320. Patented May 20, 1862.







Witnesses
John Mullaney.
E. A Elder

Inventor
Edwin May

UNITED STATES PATENT OFFICE.

EDWIN MAY, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN APPARATUS FOR CASTING BULLETS.

Specification forming part of Letters Patent No. **35,320,** dated May 20, 1862.

To all whom it may concern:

Be it known that I, EDWIN MAY, of Indianapolis, in the county of Marion and State of Indiana, have invented a certain new and useful Improvement in the Mode of Casting Conical and Hollow Bullets, of which the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in casting conical and hollow bullets and swaging the same while the lead is in a plastic state, making the bullets without a neck and fit for use when they leave the mold.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

Figure 1, A, side view of machine made of malleable iron; B, end of kettle made of cast-iron; Fig. 2, A, plan or top view of machine; B, plan of kettle; Fig. 3, B, side view of kettle; Fig. 4, section through kettle; Fig. 5, machine A inverted; Fig. 6, top of adjustable molds *i i;* Fig. 7, inside view or one-half of molds *i i.*

I place the pig-lead in *z*. The fire being below the same, the lead is melted and passed through the port *u* into *o* and raised until it reaches the dotted line *p p*, when, acting on the governor *r*, it closes the port *u* with the valve *t*. By this arrangement I keep all the sediment and dross in *z*, drawing only the pure melted lead from the center of *z*, where it is not overheated nor too cold for molding. As there is no dross to skim off by this method, a large saving of labor and lead is effected. Having secured the level and supply of melted lead in *o*, I proceed to cast the bullets by placing the machine A within kettle B at *o*. The melted lead fills the mold *i i*, and is then shoved along over the lifts and stops 1 1, which elevates the machine so that the mouth of molds is out of the melted lead. Then I release the lever *a* by removing the catch *q*, which allows the plungers *h h* and *k k* to be forced down by means of the springs *e e e e*, *h h* to press on the bullet and cut off the surplus lead, and *k k* to press within the bullet, thereby swaging the same to a perfect outside surface. The melted lead taken up by this operation is replaced from *z* by melted lead passing through the port *u*. After cooling I proceed to remove the bullets, which is done by putting down the lever *a* under catch *q* and releasing the lever *d* by raising the same, when the springs *e e e e*, acting on the lever *a* over the hinge and fulcrum *g*, open the machine, and the bullets fall out, ready for use without further preparation. The molds *i i* are made adjustable, so that to change the form of bullets it is only necessary to draw the screws *n n n n* and place other molds instead. The manner of clamping the same together by means of the lever *d* insures a perfect joint, and no expansion under heat will affect the same.

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

1. The casting of conical and hollow bullets and swaging the same while the lead is in a plastic state by means of the molds *i i*, in combination with the plungers *h h k k*, and the springs *e e e e*, when constructed and operated substantially as and for the purposes set forth.

2. The adjustable molds *i i* and clamps *j j*, in combination with the levers *a* and *d*, when constructed and operated substantially as and for the purposes set forth.

EDWIN MAY.

Witnesses:

JOHN MULLANY,

E. A. ELDER.