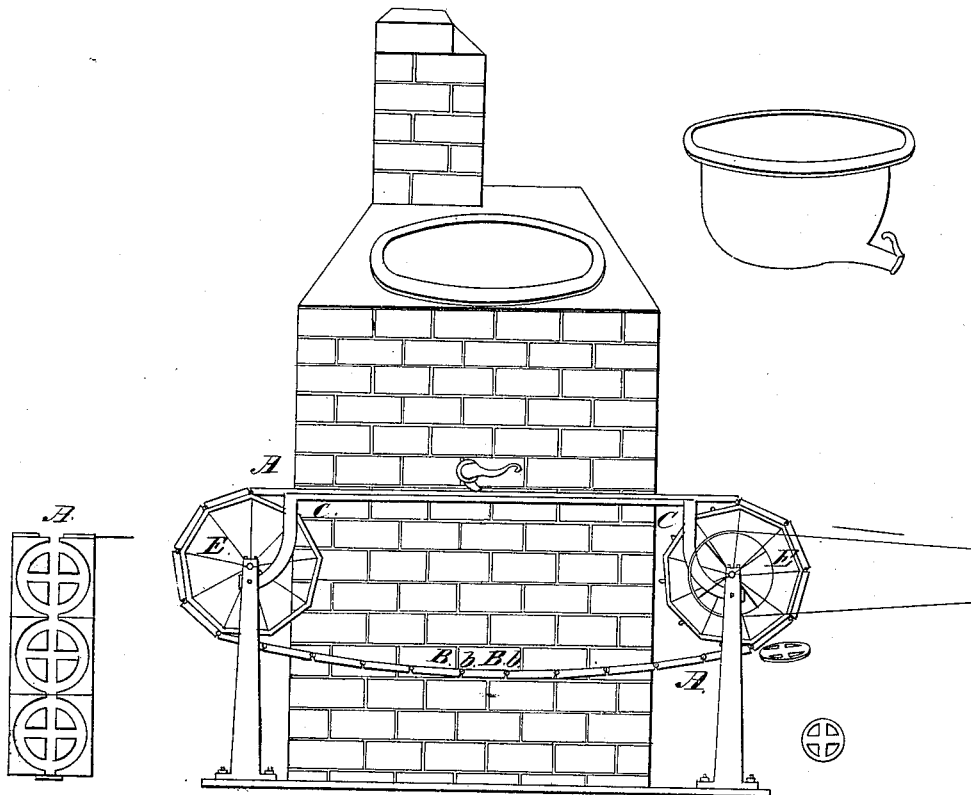


G. W. CAMPBELL.  
CASTING BULLETS, &c.

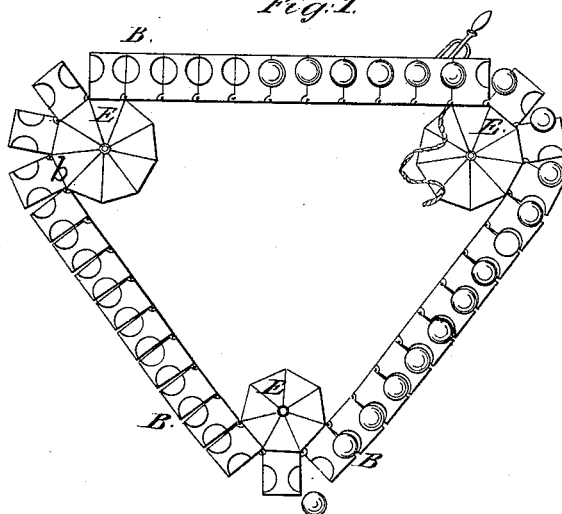
No. 5,371.

Patented Nov. 20, 1847.

*Fig. 2.*



*Fig. 1.*



# UNITED STATES PATENT OFFICE.

GEO. W. CAMPBELL, OF BELLEVILLE, NEW JERSEY.

## IMPROVEMENT IN THE MANUFACTURE OF BULLETS, &c.

Specification forming part of Letters Patent No. 5,371, dated November 20, 1847.

*To all whom it may concern:*

Be it known that I, G. W. CAMPBELL, of Belleville, in the county of Essex and State of New Jersey, have invented new and useful improvements in constructing endless series of molds for casting bullets, buckles, and other articles in lead; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical section through the center of the bullet-mold, and Fig. 2 a representation of a buckle-mold with a furnace connected.

The same letters indicate like parts in both the figures.

The nature of my invention consists in connecting in an endless series the sections of a bullet-mold and causing them to pass around two or more rollers or carrying-cylinders in such a manner as that their weight shall hold them together tightly closed, and on bending round the cylinders these sections shall be opened, so as readily to free and discharge their contents.

The construction is as follows: For the bullet-molds the sections are cubical blocks of metal B, jointed together at their inner edges, *b*, so as to form an endless chain, as is clearly shown in Fig. 1. In the sides of each of these metal blocks, next to the succeeding ones, are recesses of a semi-spherical form, and the two being closed form a perfect bullet-mold. This endless chain thus constructed is sustained by three cylinders or polygonal prisms, E, placed equidistant in a triangular position, two of them being on the same level, by which it will be observed that that portion between the two upper cylinders has all its sections closed, so as to receive the molten lead from a spout in the furnace, where it is melted, as the endless chain passes under it with a velocity just suffi-

cient to fill each mold in its progress. After being filled the sections pass around the cylinder, over which they are carried by its revolution and opened, which tends to loosen the casting. It then closes, descending in a straight line to the lower cylinder, making a turn around it short enough to open the mold with both faces downward sufficiently to drop out the bullet. Thence the empty sections ascend again to the upper level, ready to receive another casting. The usual sprue-hole is formed in the upper part of the mold, and a continuous trough may be made along the outer face of the sections, if required. By this arrangement it will be perceived that each section will be alternately separated from those adjoining, and also from the casting, which by this means can be readily detached therefrom, which last operation can be aided, if found necessary, by a small trip-hammer striking each section at its lowest point. This is so obvious that a description or representation is not deemed necessary.

It is apparent that though a bullet-mold is the only one described above, the same construction of endless-chain molds may be made for castings of other descriptions, and I intend to employ my improvement for various purposes for which such an arrangement is obviously applicable.

I wish it to be understood that I do not claim as my invention an endless chain of molds, as that has before been made; but

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

An endless chain of sections or molds passing over horizontal prisms or cylinders, substantially as above specified, for making bullets and other castings, so that the sections of the molds shall be forced open for the discharge of their contents by passing around said cylinders.

GEO. W. CAMPBELL.

Witnesses:

JOHN A. ARMOUR,  
Jno. C. LLOYD.