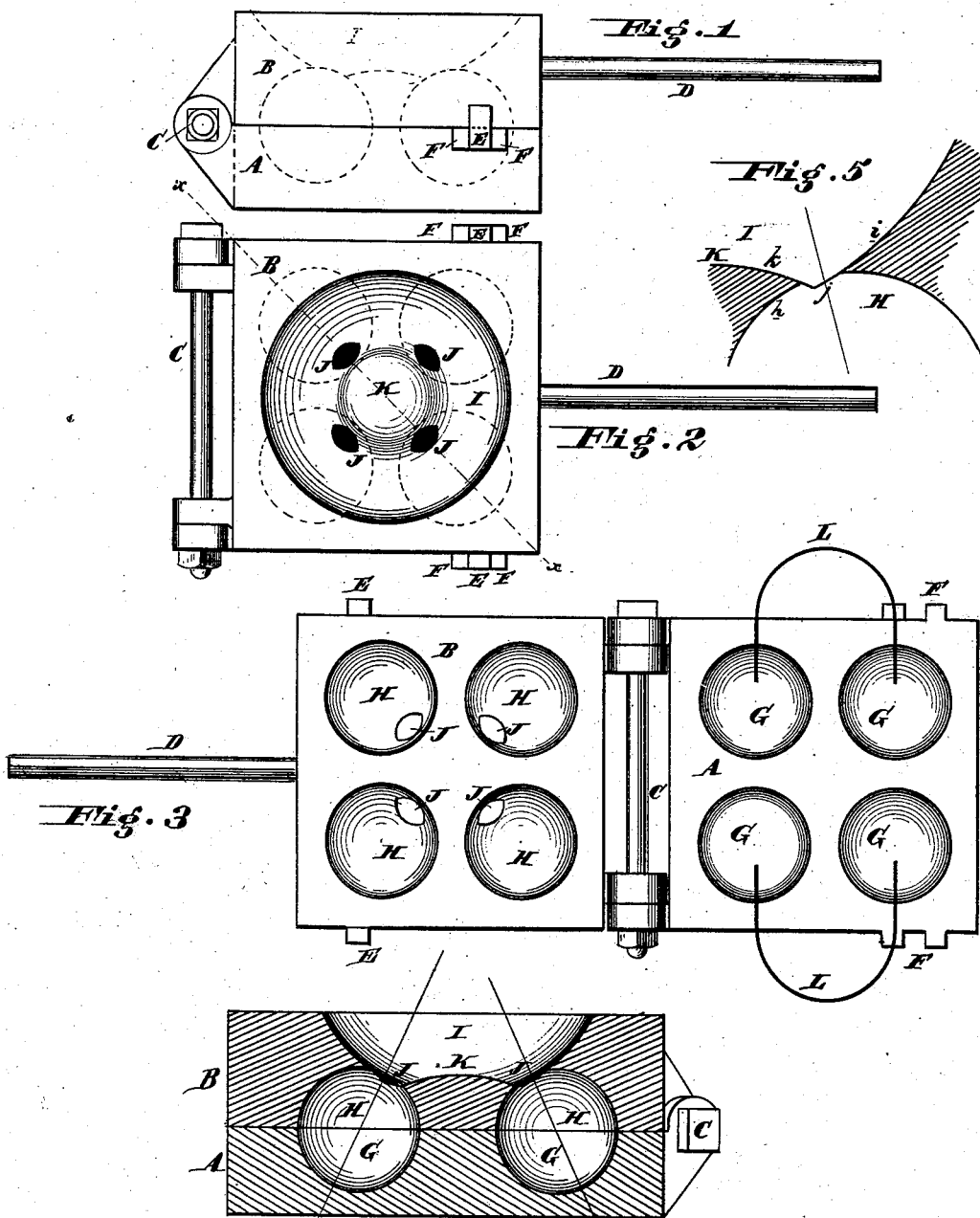


(No Model.)

M. E. BRIGHAM.
MOLD FOR ALKALI BALLS.

No. 260,832.

Patented July 11, 1882.



Attests
L. J. Matos.
Wesley Williams.

Fig. 4

Inventor
Martin E. Brigham
By his atty
T. W. Smith

UNITED STATES PATENT OFFICE.

MARTIN E. BRIGHAM, OF PHILADELPHIA, PENNSYLVANIA.

MOLD FOR ALKALI BALLS.

SPECIFICATION forming part of Letters Patent No. 260,832, dated July 11, 1882.

Application filed May 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, MARTIN E. BRIGHAM, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in the Manufacture of Lye into Balls, of which the following is a specification.

My invention has reference to the manufacture of lye into balls, but more particularly to the peculiar shape and general construction of the mold in which the balls of lye are cast.

Heretofore it has been found impracticable to cast more than one ball at a time, owing to the fact that the lye when being cast would solidify so rapidly that perfect balls could not be made, and although much experimenting has been done to arrive at this end it has heretofore been unsuccessful. In the molds as now used the cast-hole is of such a shape that the balls are not perfect, and large projections will be found upon most of them corresponding to the place through which the lye was poured. The process of casting lye balls was therefore very slow and expensive, and the wires cast in the lye balls, by which they are afterward dipped into a coating material impervious to moisture, were inserted through the cast-hole and impeded the flow of the lye; and, further, each ball was provided with a separate wire and was dipped separately.

My invention consists in the peculiar construction of a mold by which two or more balls may be cast at one time and with the labor of casting a single ball; further, in so constructing and shaping the cast-hole that the balls are readily broken away from the lye in the cast-basin, and on a line even with the curved surface of the ball; further, in making the molds in pairs and arranging a bent wire with its free ends into the two adjacent molds, so that when the balls are cast they are held two and two, and may be dipped together and hung over a rail to solidify; and in minor details of construction, all of which are fully set forth in the following specification, and shown in the accompanying drawings, which form part thereof.

The object of my invention is to cast two or more lye balls at the same time, enable two or more to be dipped at the same time, and support each other when drying, by which the cost of manufacture is greatly reduced and the product produced superior.

In the drawings, Figure 1 is a side elevation of my improved lye-mold. Fig. 2 is a plan of same closed. Fig. 3 is a plan of same open. Fig. 4 is a sectional elevation of same on line *xx* of Fig. 2, and Fig. 5 is a section illustrating the peculiar construction of the cast-hole.

A and B are the two halves of the mold, and are hinged together at C. The upper half of the mold is provided with a rod or handle, D, by which to raise half B from the lower part, A. To insure proper register of the two halves the part B is provided with lugs E, which fit between lugs F F on part A, and also fit against the sides of the latter to prevent lateral movement. If desired, any other convenient means to insure proper register of the two halves may be used. The lower half, A, of the mold is made of solid metal, with two or more hemispherical depressions, G, therein, four being shown. The upper half, B, is also made of solid metal, and is provided with a similar number of hemispherical depressions, H, which register with those G in parts A to form spheres or balls. The half B is further provided upon its upper or out side with a basin, I, large enough to extend over part or all of each of the hemispheres H. The center of this basin is raised, as at K, which raised portion corresponds with the center of four balls, as shown in Figs. 2 and 4. The basin communicates with the hemispheres H by apertures J, of the peculiar construction shown. These apertures are made by the three curved surfaces—*i* of basin I, *k* of raised part K, and *k* of semi-hemisphere H—cutting each other at a point, *j*, and as all point toward a great circle of the hemispheres G H the line of rupture between the solidified ball and the lye in the basin I will be in said great circle, and of which *j* is a point. By this construction the balls may be separated very readily, and broken from the lye in basin I on the surface of said balls, leaving little or no protuberance when removed from the mold. Before casting, the bent wires L are laid as shown in Fig. 3, the free bends extending over the depressions G and the bends outside the mold. When so placed the part B is turned over upon part A, as shown in Fig. 1, and the melted lye is poured into the basin I, and is speedily guided through the holes directly into the molds. When the balls are cast the part B is raised

and thrown back heavily or knocked, freeing the balls. They are then lifted out two and two by wires L, and after being dipped they are hung upon a rail by said wire to dry. This mold is equally adapted to cast other substances than lye.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

- 10 1. A mold for casting lye balls, which consists of two parts of metal, each provided with two or more hemispherical depressions arranged to register with each other, the upper of said parts being further provided with a
- 15 cast-basin having its center raised, and apertures from the said basin between its sides and raised center into each of the hemispherical depressions in said part, the said apertures being so curved as to cause the melted lye to
- 20 run directly through same, substantially as and for the purpose specified.

2. A mold for casting two or more lye balls at the same time, which consists of metal parts

A and B, hinged together, and each provided with registering hemispherical depressions, the part B being provided with a basin, I, having a raised center, K, and also apertures J, said apertures being formed by three curved surfaces intersecting each other, substantially as shown.

3. In a mold for casting two or more lye balls at the same time, the metal parts A and B, hinged together at C, provided with registering-lugs E F or their equivalent, and each provided with the hemispherical depressions G H, the part B being further provided with the basin I, having raised center K, apertures J, substantially as shown and described, and rod or handle D.

In testimony of which invention I hereunto set my hand.

MARTIN EUGENE BRIGHAM.

Witnesses:

R. A. CAVIN,

R. S. CHILD, Jr.