(Model.)

2 Sheets—Sheet 1.

P. F. DILLON.

METALLIC MOLD.

No. 382,411. Patented May 8, 1888.

Fig. 1.

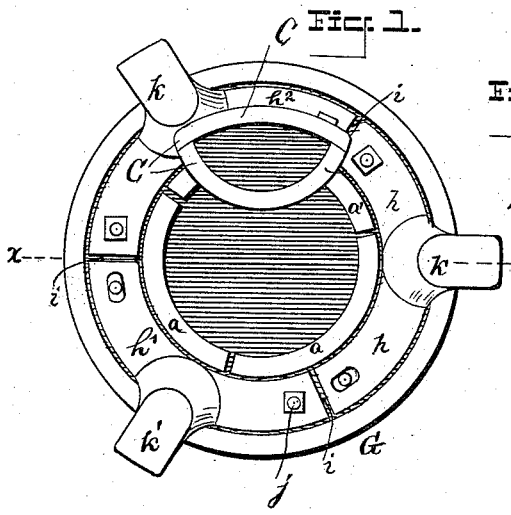
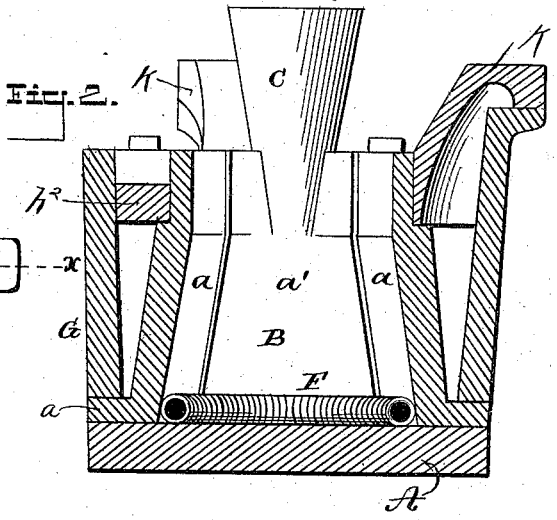


Fig. 2.



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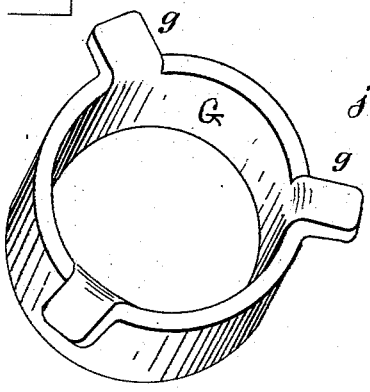

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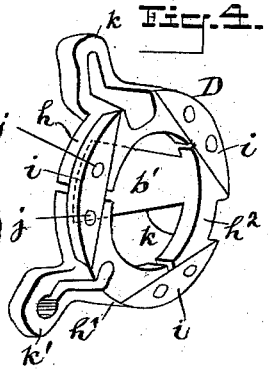

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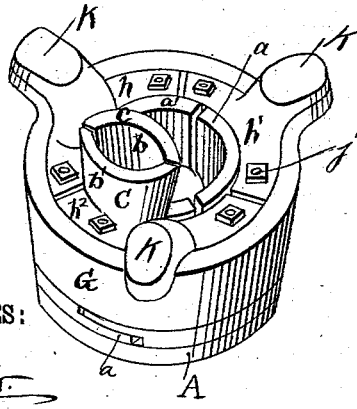
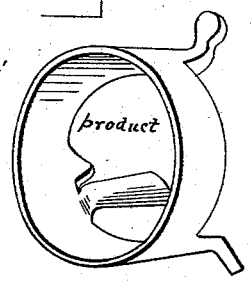


Fig. 7.



WITNESSES:

D. D. Mott.

C. Seagrick

INVENTOR:

P. F. Dillon.

BY Munn & Co.

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

(Model.) 2 Sheets—Sheet 2.

P. F. DILLON.

METALLIC MOLD.

No. 382,411. Patented May 8, 1888.

Fig. 5.

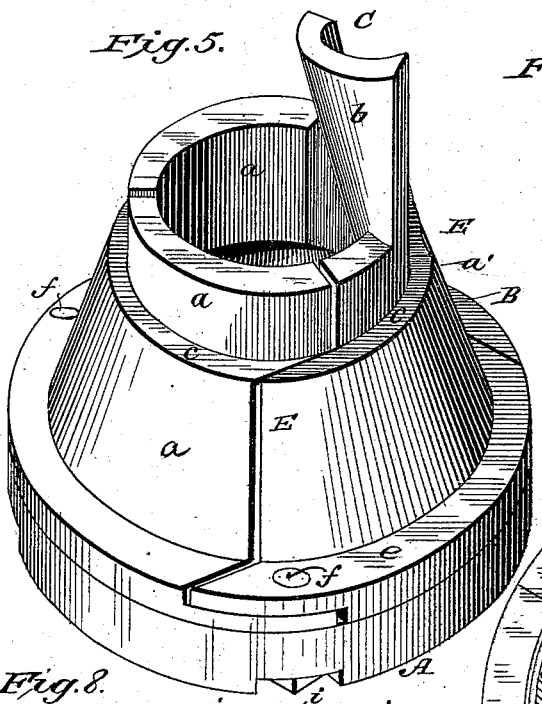


Fig. 10.

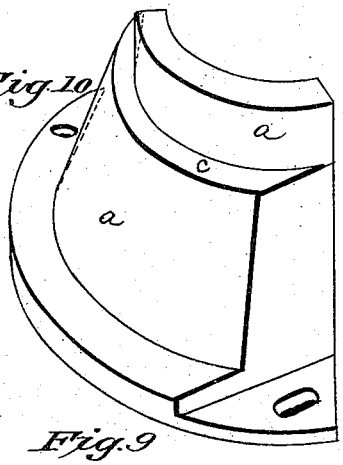


Fig. 9.

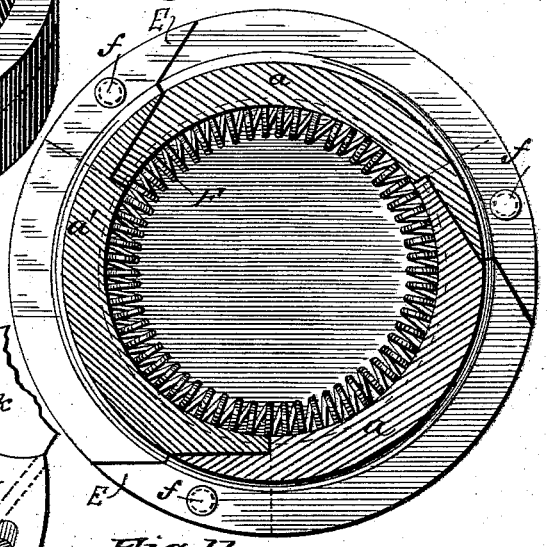


Fig. 8.

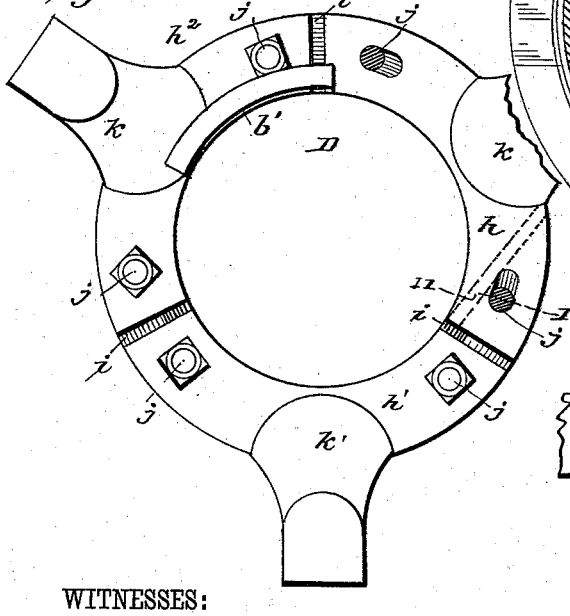
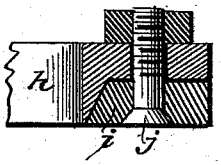


Fig. 11.



WITNESSES:

D. D. Mott

C. Sedgwick.

INVENTOR:

P. F. Dillon

BY Munn & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

PHILIP F. DILLON, OF SAVANNAH, GEORGIA.

METALLIC MOLD.

SPECIFICATION forming part of Letters Patent No. 382,411, dated May 8, 1888.

Application filed December 9, 1887. Serial No. 257,436. (Model.)

To all whom it may concern:

Be it known that I, PHILIP F. DILLON, of Savannah, in the county of Chatham and State of Georgia, have invented a new and Improved Contractile Metallic Mold, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a plan view of one part of my improved mold. Fig. 2 is a vertical transverse section taken on line *x x* of Fig. 1. Fig. 3 is a perspective view of the cheek of the mold. Fig. 4 is a perspective view of the cope of the mold. Fig. 5 is a perspective view of the contractible core of the mold, showing the same expanded. Fig. 6 is a perspective view of the mold, and Fig. 7 is a perspective view of the casting as it comes from the mold. Fig. 8 is a top plan view of the cope of the mold in its expanded position, parts being shown in section. Fig. 9 is a horizontal section of the contractible core, showing same in its collapsed position; and Fig. 10 is a detail perspective view of one of the segments of the contractible core. Fig. 11 is a section on the line 11 11 of Fig. 8.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to provide a mold for casting metals which will permit of the shrinkage of the casting without subjecting it to strain.

My invention consists in a metallic mold having a contractile core and contractile cope which will permit of the shrinkage of the casting made in the mold without danger of straining or cracking it. In the present case I shall describe my invention as applied to a mold for casting the zincs of gravity batteries; but I do not limit or confine my invention to molds for this particular purpose.

To the base A is fitted a hollow core, B, divided into three equal segments, *a a a'*. The segment *a'* carries one half, *b*, of the gate C. In the segments is formed a rabbet, *c*, for receiving the cope D, and one end, E, of each segment is extended so as to overlap the beveled free end of the adjoining segment, and the projecting end of each segment is pivoted to the base A by a bolt, *f*. By means of this arrangement of parts the segments *a a a'* are permitted to swing upon the bolts *f*, and thus allow of their contraction to prevent straining the casting made around the core. Normally the joints between the segments are slightly open, and are held in an open position by the spiral spring F, inserted within the conical core and tending to press the segments *a a a'* outward.

The cheek G rests upon the flanges of the segments of the conical core B and incloses an annular space between itself and the said core of V-shaped section. The cheek G is provided with three right-angled arms, *g*, which form the under part of the mold for the arms of the zinc.

To the rabbet of the conical core B is fitted the cope D, which is formed of three segments, *h h' h²*, which are rabbeted on their under surfaces to receive the connecting-pieces *i*, which extend across the joint between the segments and are secured to the segments by bolts *j*, passing through holes in the connecting-pieces and slots in the segments. The segments *h h' h²* are provided with hollow arms *k k k'*, which fit over the arms *g* of the cheek G. The hollow arms *k k* form molds for two of the supporting-arms of the zinc, while the arm *k'* forms the mold for the third arm of the zinc, which is provided with a cavity forming the enlargement of the zinc for receiving a binding-screw. The segment *h²* of the cope D carries the remaining half, *b'*, of the gate C. The cope D fits around the conical core and fits into the cheek G. The metal is poured into the gate C and fills the annular space between the cheek and the conical core, and as the metal contracts on cooling both the conical core and the cope D contract.

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

1. In a contractile metal mold, the combination, with the cheek, of the contractile core and a contractile cope, substantially as described.

2. In a contractile metal mold, the combination of a core formed of segments *a a a'*, pivotally connected with the base, and the cope D, formed of segments *h h' h²* and connecting-pieces *i*, substantially as described.

3. The combination, with the contractile core B and contractile cope D, of the halves *b b'* of the gate, substantially as described.

4. In a metallic mold, the combination, with

the cheek and cope, of the contractible core formed of segments *a a a'*, pivotally connected with the base, said segments formed with a rabbet, *c*, adapted for receiving the cope, substantially as shown.

5. In a metallic mold, the combination, with the cheek and cope, of the contractile core formed of the segments *a a a'*, one end, E, of each segment extended so as to overlap the beveled free end of the adjoining segment, the extended end E, provided with an aperture to receive a pivot-bolt, *f*, the end of the adjoining segment provided with an elongated slot, and the bolt *f*, passing through said slot; whereby said segments are permitted to swing upon the bolts *f* when contracted, substantially as shown and described.

6. In a metallic mold, the contractile core composed of the sections *a a a'*, each section formed with a rabbet, *c*, and having one end, E, extended and provided with a bolt-hole and the other end extended and provided with an elongated bolt-opening, whereby the same may be adapted to swing upon the bolts *f*, as shown and described.

7. The combination, with the contractile core B, formed of segments *a a a'*, and a spring, F, arranged to press the segments of core outward, of the contractile cope D, substantially as shown and described.

8. In a contractile metal mold, the combination, with the cheek, of the contractile core provided with the gate portion *b'* of the gate C and a contractile cope provided with the portion *b* of the gate C, all arranged substantially as shown and described.

PHILIP F. DILLON.

Witnesses:
R. H. BULLOCK,
A. GARTNER.