

(No Model.)

E. GOTHBERG.

MANUFACTURE OF SPIRALLY CORRUGATED SHEET METAL SPHEROIDS.

No. 425,099.

Patented Apr. 8, 1890.

Fig. 1.

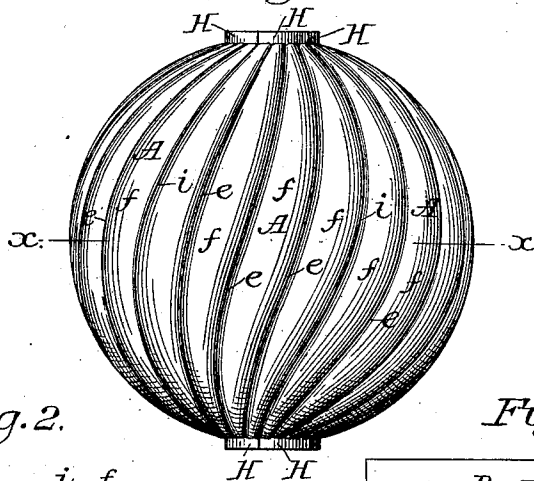


Fig. 2.

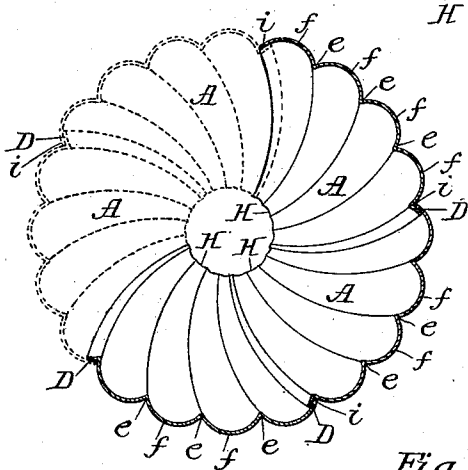


Fig. 3.

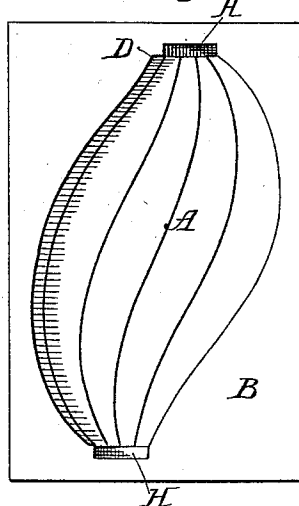
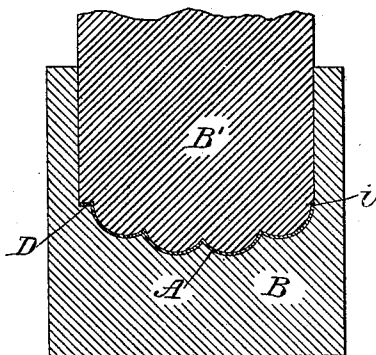


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

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MANUFACTURE OF SPIRALLY-CORRUGATED SHEET-METAL SPHEROIDS.

SPECIFICATION forming part of Letters Patent No. 425,099, dated April 8, 1890.

Application filed February 10, 1890. Serial No. 339,857. (No model.)

To all whom it may concern:

Be it known that I, ERNST GOTHBERG, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in the Manufacture of Spirally-Corrugated Sheet-Metal Spheres and Spheroids for Ornamental Purposes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to the formation of spirally - corrugated spheroidal bodies of sheet metal for various ornamental purposes. Heretofore such sheet-metal spheroids have been formed in two divisions parted upon a line transversely to the length of the corrugations and the axis of the body. In such case the transverse joint or seam between the two divisions produces a break in the continuity of the curved lines of the corrugations, which greatly mars the ornamental effect thereof.

The object of my invention is to produce an ornamental spheroid of sheet metal indented with a series of spiral corrugations, each of which shall be continuous from the one pole to the other, so as to present in relief with a smooth uniform surface a continuous series of spiral corrugations, forming in cross-section a series of deep regular curves of uniform radii.

It consists in the method, substantially as hereinafter described and claimed, of building up the spheroid in segmental divisions or sections whose joints are made to coincide with the curves of the spiral corrugations, and are thereby so concealed as not to mar the unity of the design and the continuity of outline in the outer configuration of the spheroid.

In the accompanying drawings, Figure 1 is an elevation of a spirally-corrugated ball of sheet metal made in pursuance of my invention; Fig. 2, a cross-section thereof in line xx of Fig. 1 with some of the divisions of the ball removed, their normal position being indicated by dotted lines; Fig. 3, a plan view of one of the dies by which the sections of the ball are formed; and Fig. 4, a sectional

view illustrating the two forming-dies when closed upon the metal sheet.

The complete ball represented in Fig. 1 is formed by the union of a series of similar segmental sections A A A, each so fluted longitudinally with corrugations following ogee curves as to form spiral indentations and intervening elevations in the direction of the length of the segment, and each bounded laterally by said curves, as shown in Figs. 1 and 2. A narrow flange D is formed upon one edge of each section to overlap the counterpart edge of the next section, and since these edges follow the spiral curves of the corrugations the overlapping joint which they form does not break the continuity of the curved lines upon the periphery of the ball, but by harmonizing therewith is concealed thereby.

Each of the segmental spirally-corrugated sections A A is formed by stamping a suitable piece of sheet metal between a pair of cameo and intaglio dies B B', operated by a press in the customary manner, so as to not only impart thereto a concavo-convex shape, but also form a series of longitudinal indentations e and intervening elevations f , following the ogee or spiral curves of the edges of the piece, the flange D upon one edge serving to make a joint between each section and the next in order. These corrugations, which constitute the ornamental feature of the finished sphere or spherical spheroid, are preferably made to present a uniform curve in cross-section, as shown in Fig. 2. The several similar sections thus stamped up between the dies are then united by causing the flanged edge D of each section to overlap the opposite edge i of the next, as shown in Fig. 2, and fixing the same with solder or by rivets, the sections being so proportioned in their dimensions as that a given number will, when assembled and joined in manner as described, produce an exact sphere or spheroid. The ends of the sections are preferably flanged, as at H, each in a segmental curve, so as to leave an opening at each end of the ball, the flanges H forming, when the sections are assembled, a collar encircling the opening, as shown in Fig. 1.

It is evident that the spirally-corrugated

body thus produced may be more or less elongated, and may also be made of an oblate or pear shape.

I claim as my invention—

- 5 1. The method, substantially as herein described, of forming spherical bodies, which consists in first stamping pieces of sheet metal between suitable dies, each into a concavo-convex form, embracing the segment of
10 a sphere or spheroid having longitudinal edges following ogee or spiral curves and its body longitudinally fluted in corrugations conforming to said edges, and then assembling and fixing said segmental spirally-corrugated sections so that the edge of the one section shall
15 overlap the opposite edges of the adjacent section.

2. As a new article of manufacture, a sheet-metal sphere or spheroid constructed of a series of similar independent longitudinally spirally-corrugated segments whose longitudinal edges follow ogee curves and which are united by overlapping edges, substantially in the manner and for the purpose herein set forth. 20

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 25

ERNST GOTHBERG.

Witnesses:

A. N. JESBERA,
E. M. WATSON.