

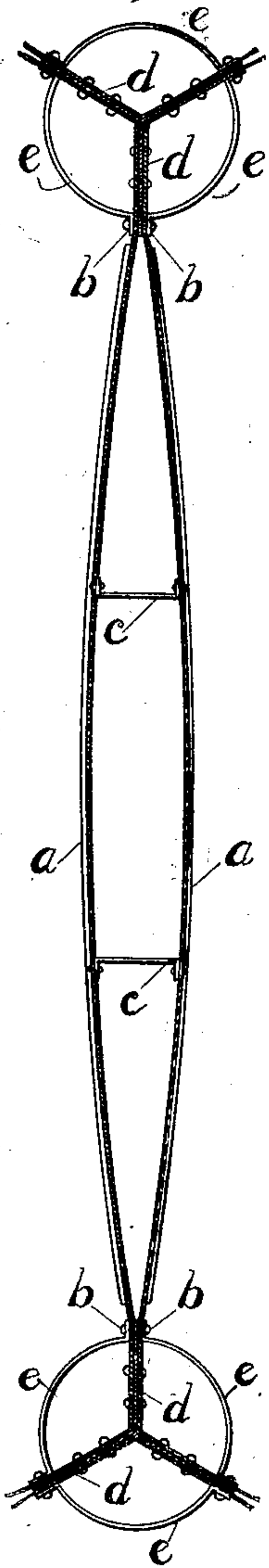
(No Model.)

E. O. FALLIS.  
METALLIC GRAIN STORAGE BUILDING.

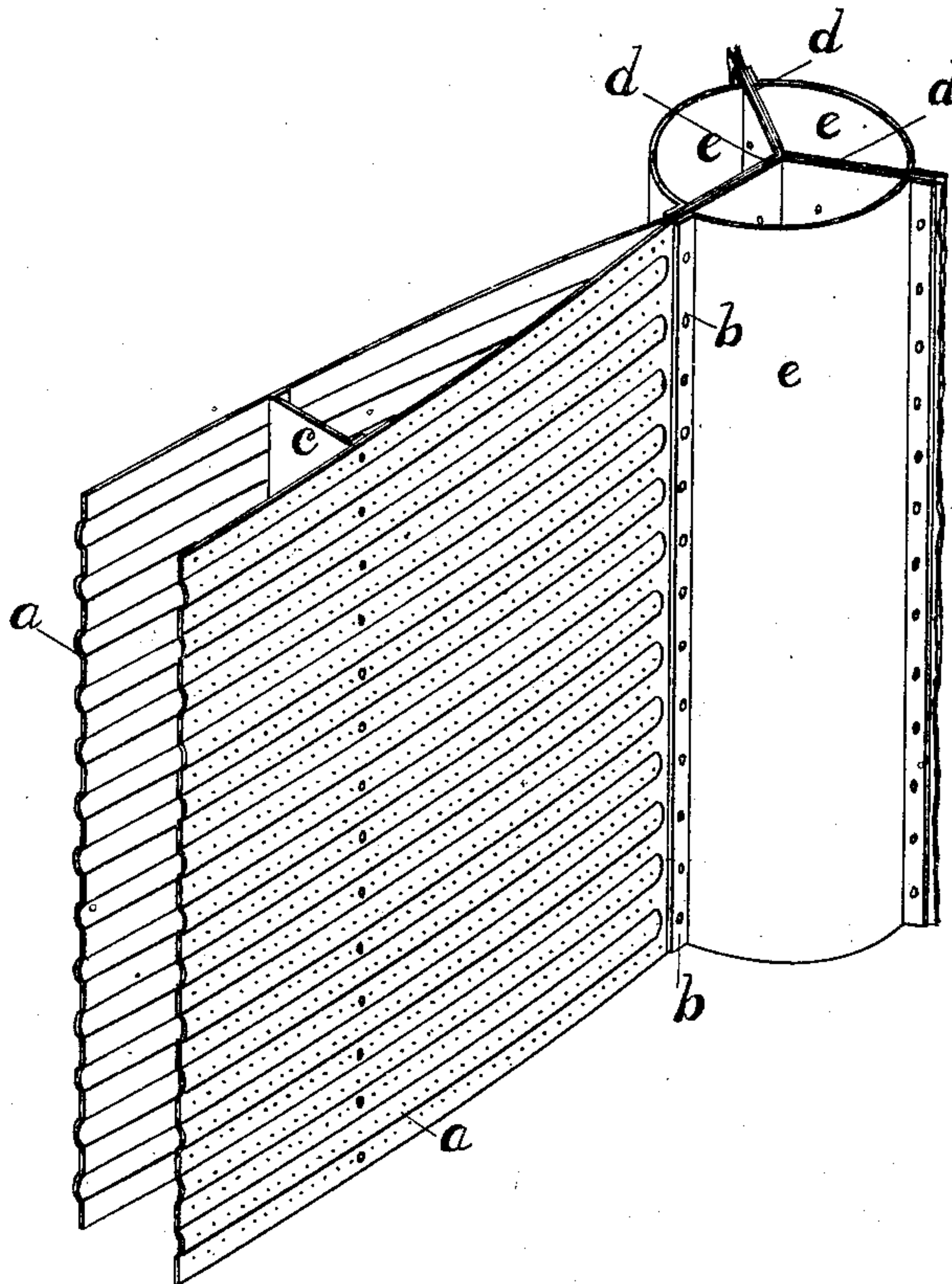
No. 532,774.

Patented Jan. 22, 1895.

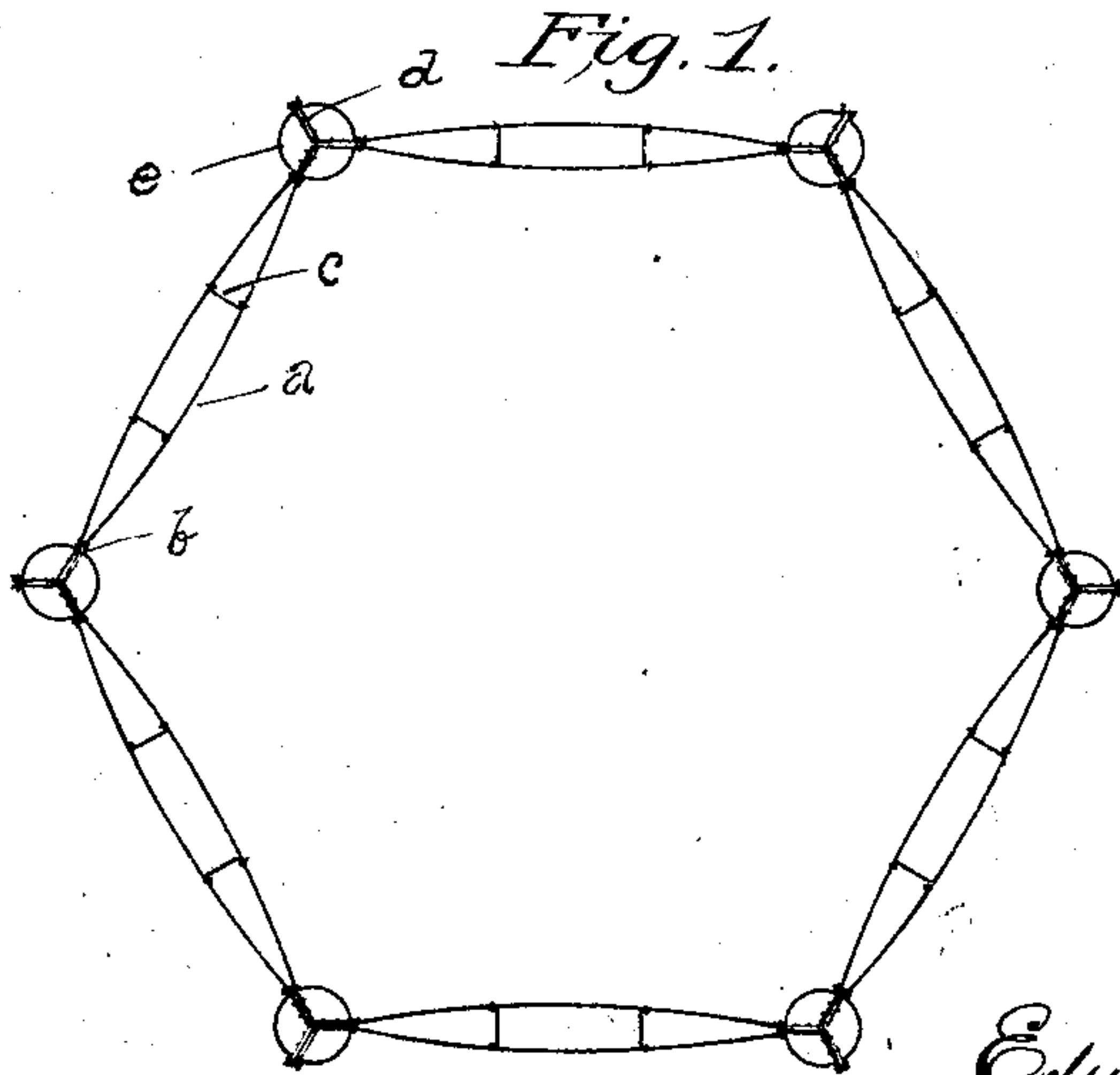
*Fig. 2.*



*Fig. 3.*



*Fig. 1.*



*Witnesses.*

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# UNITED STATES PATENT OFFICE.

EDWARD O. FALLIS, OF TOLEDO, OHIO.

## METALLIC GRAIN-STORAGE BUILDING.

SPECIFICATION forming part of Letters Patent No. 532,774, dated January 22, 1895.

Application filed July 31, 1894. Serial No. 519,123. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD O. FALLIS, a citizen of the United States, residing at Toledo, Lucas county, Ohio, have invented certain new and useful Improvements in Metallic Grain-Storage Buildings, of which the following is a specification.

In the storage of grain in buildings in which the walls and bins are constructed of sheet metal, the following difficulties are encountered: First, when a bin is filled with grain and one or more of its walls is an outside wall, or a partition wall adjoining an empty bin, the wall thus subjected to strain from one side only will become distorted, unless the metal is very heavy, which entails undue weight and expense in construction; second, when the exterior of the metal wall of a bin is exposed to a temperature lower than that within the bin, moisture will be condensed upon the inner surface of the exposed wall, and the contained grain next to the chilled surface will become wet and damaged.

My invention relates to and its object is to provide a method of construction for metallic grain storage buildings which shall overcome the difficulties above pointed out. I attain these objects by means of the construction and arrangement of parts hereinafter described, and shown and illustrated in the accompanying drawings, made part hereof, in which—

Figure 1, is a plan section of a sheet metal bin constructed according to my method; Fig. 2, an enlarged plan view of one of the walls of the same showing a means of connecting the meeting walls, and Fig. 3, a perspective view of part of the same.

Like letters of reference indicate like parts throughout the several views.

The storage bins of my building are preferably of hexagonal form, in horizontal section, as shown in Fig. 1, though I do not limit my invention to this form of bin. In the drawings, the walls of the building and of the bins consist of two thicknesses of sheet metal, *a a*, secured in close conjunction at their vertical edges, by means of bolts or rivets, as at *b b*, and curved away from each other so that in horizontal section the two sheets or shells present two equal arcs of a circle, reversed to each other and having a common chord. The

sheets *a* are held rigidly in place and secure against spreading or collapse by means of braces, *c c*, securely bolted or riveted to and between the sheets *a*. In the angles of the walls or bins are vertical angle-irons *d d*, or columns built up of angle-irons and inclosing sectors, *e e e*, and to projecting lips or flanges of these angle-irons or columns the vertical edges of the walls, *a*, are secured as above indicated. The sheets *a a* may be corrugated or fluted to give them additional strength and rigidity, as in Fig. 3. The interior sheets of the exterior walls may be finely perforated, as shown in Figs. 2 and 3, so that the temperature of the air space between the double walls and the grain next the inner wall shall be about the same, thus preventing condensation on the inside sheet even when moisture is condensed on the interior of the outside sheet.

The advantages of the construction here shown are, first, the great strength of the walls, both under tension and compression, in proportion to the weight of metal used; second, the spaces between the curved walls (which may be either for dead air, or be packed with mineral wool, or other non-conducting material) tend to prevent, by sudden changes of temperature, condensation and injury to the contents of the bins, as when the exterior walls are subjected to an extreme change of weather, or when a bin contains warm grain and an adjoining bin is then filled with cold grain.

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

1. A metallic grain storage building, having the walls and partitions thereof composed of oppositely curved sheets of metal suitably secured together at their vertical meeting edges, substantially as shown and described, for the purpose specified.

2. A metallic grain storage building, having the walls and partitions thereof consisting of oppositely curved sheets of metal suitably secured to and in combination with vertical columns or angle-irons, in the angles of said building or the bins thereof, substantially as shown and described, for the purpose specified.

3. A metallic grain storage building, having the bins having walls composed of oppositely

curved plates meeting at their vertical edges, in combination with columns or angle-irons in the angles of said bins, and braces in the spaces between said curved walls rigidly secured to and connecting said walls, substantially as shown and described, for the purpose specified.

5 4. A metallic grain storage building, having double walls or partitions, composed of oppo-

sitely curved sheets of metal suitably secured together at their vertical meeting edges, the inner wall being perforated, substantially as shown and described, for the purpose specified.

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Witnesses:

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