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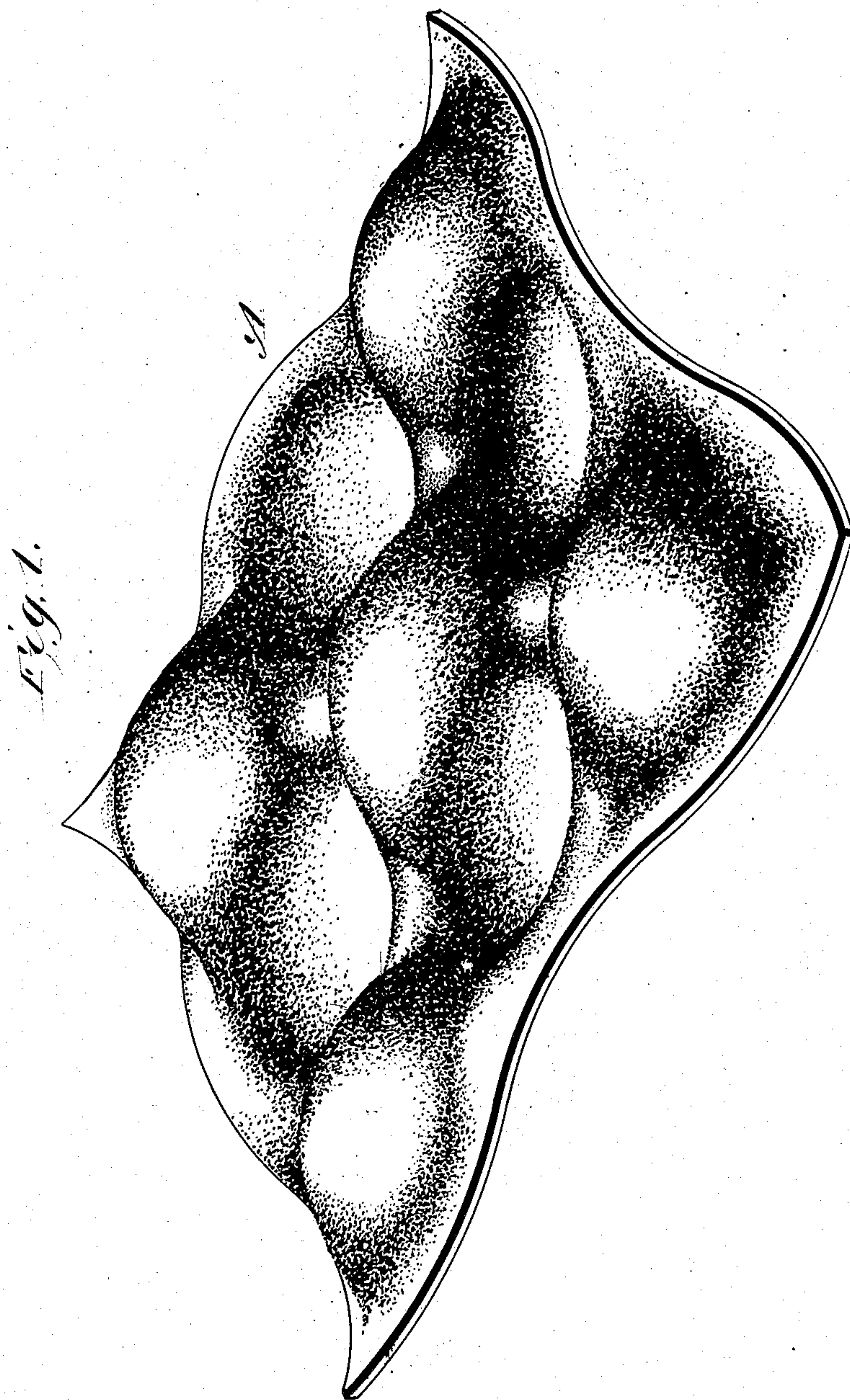
PATENTED MAR. 19, 1907.

C. J. VOORHORST.

DIVISION PLATE FOR EGG CASES.

APPLICATION FILED JULY 29, 1904. RENEWED AUG. 21, 1906.

3 SHEETS—SHEET 1.



WITNESSES:

Fred D. [Signature]
Per B. [Signature]

INVENTOR

Clarence J. Voorhorst.

BY

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ATTORNEYS

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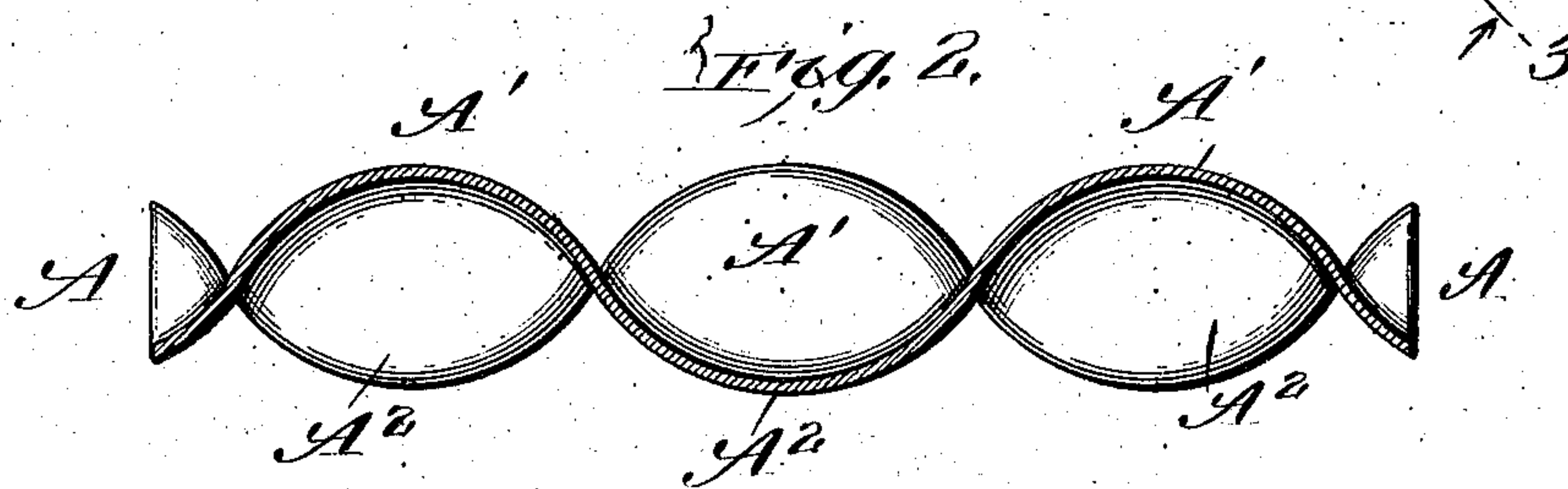
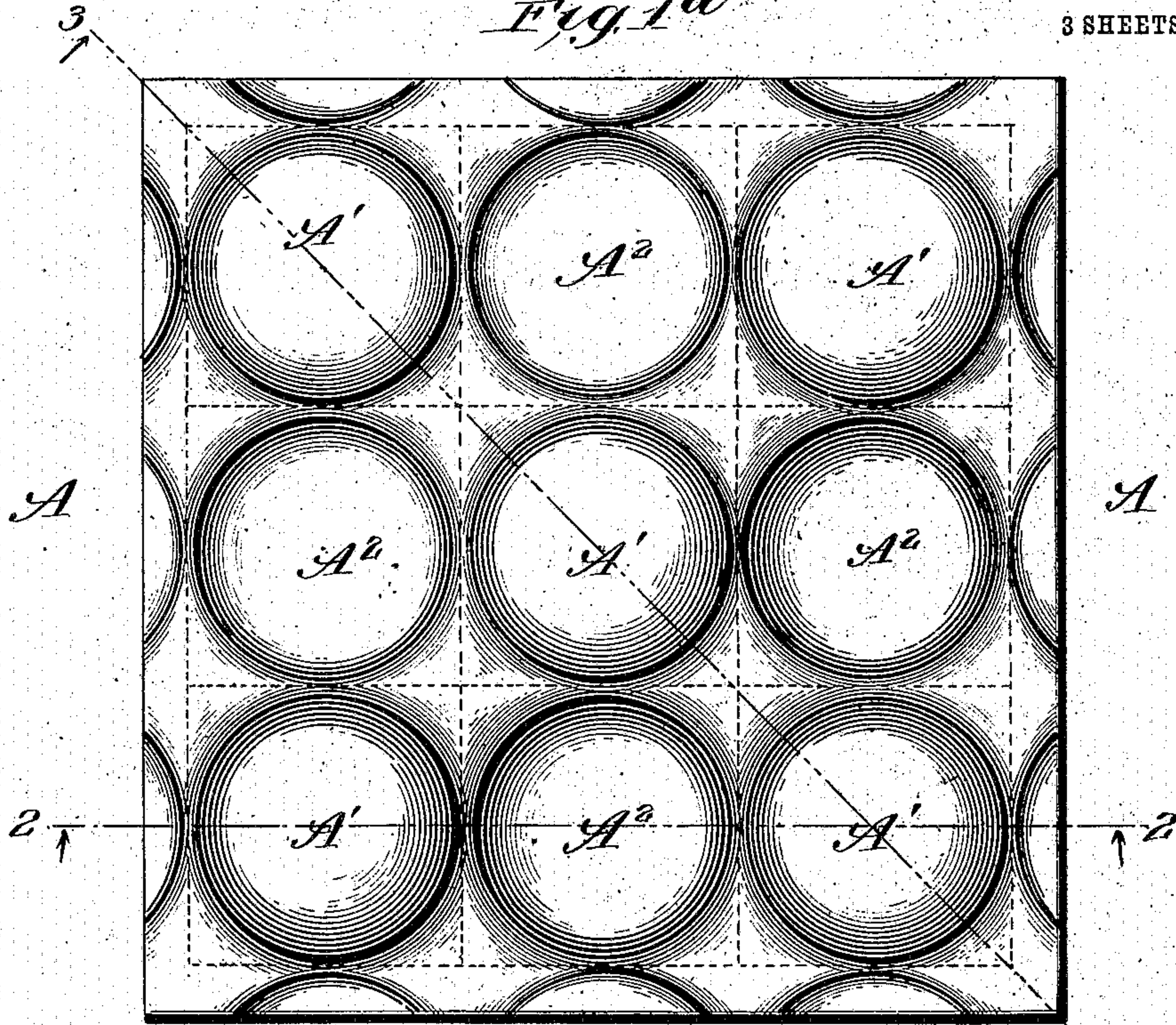
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Fig. 1a

3 SHEETS—SHEET 2.



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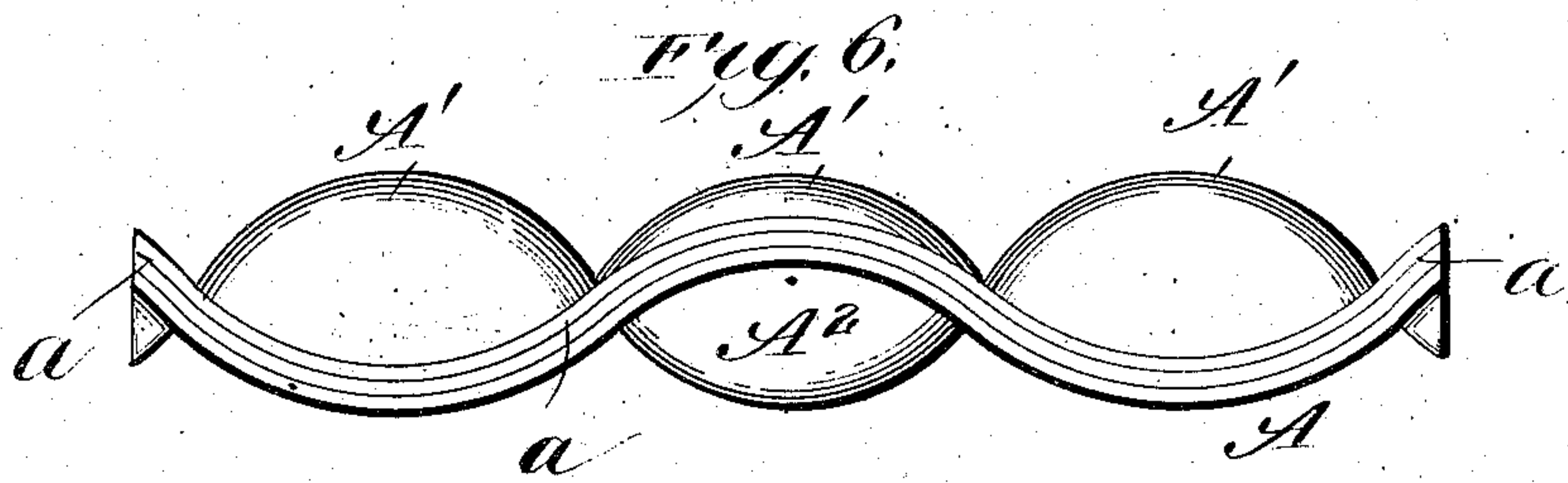
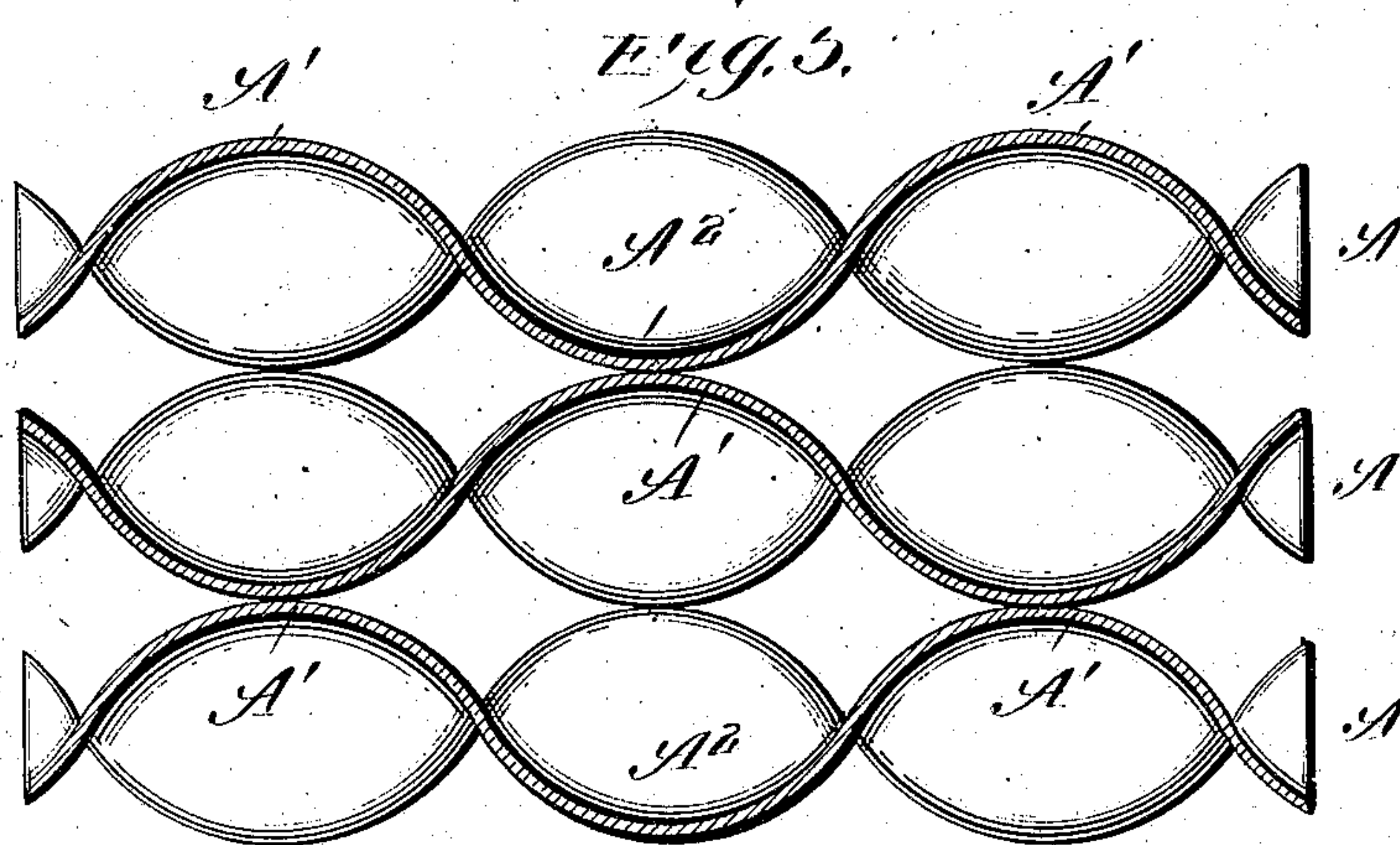
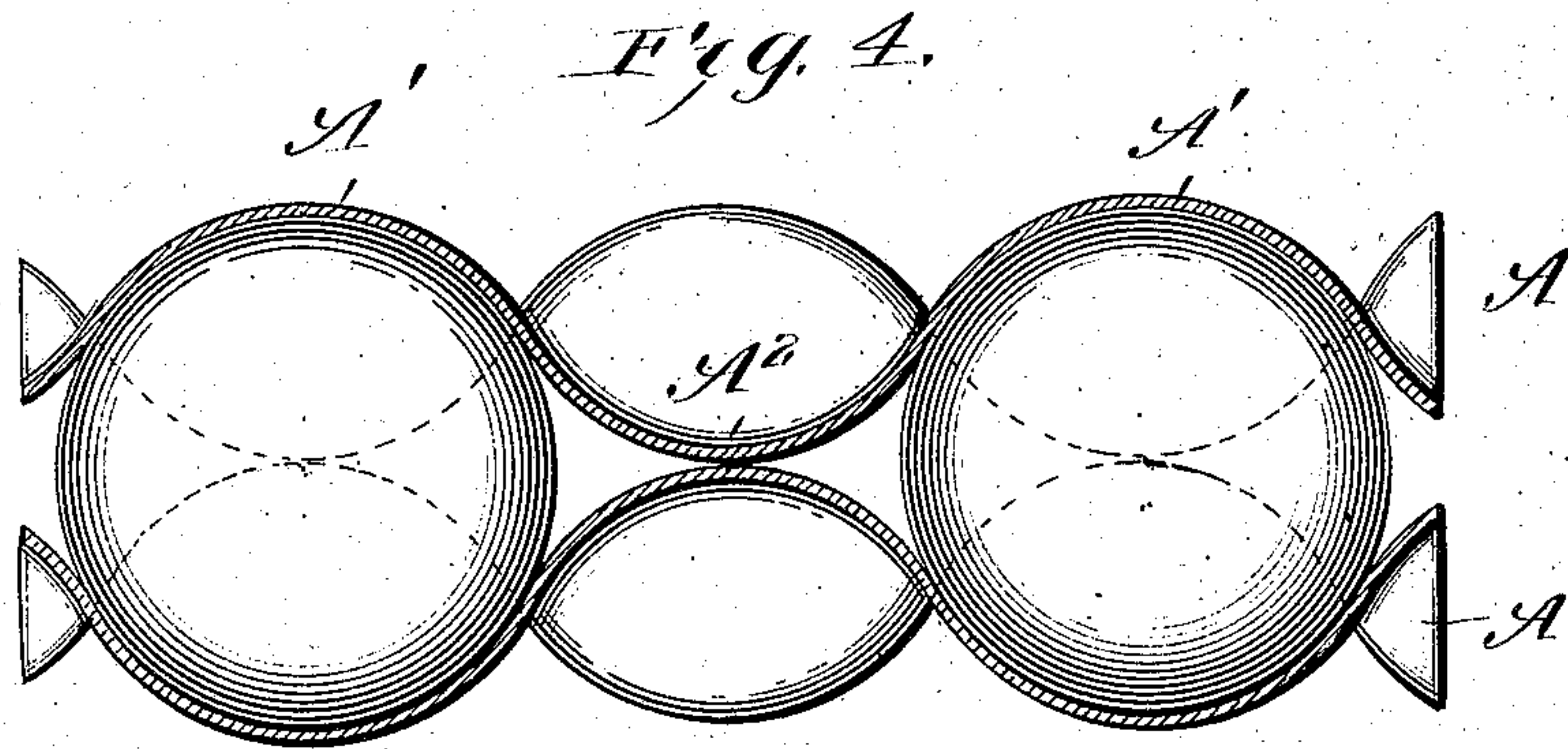
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

CLARENCE J. VOORHORST, OF CHICAGO, ILLINOIS.

DIVISION-PLATE FOR EGG-CASES.

No. 847,854.

Specification of Letters Patent.

Patented March 19, 1907.

Application filed July 29, 1904. Renewed August 21, 1906. Serial No. 331,521.

To all whom it may concern:

Be it known that I, CLARENCE J. VOORHORST, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have made certain new and useful Improvements in Division-Plates for Egg-Cases or the Like, of which the following is a specification.

My invention is an improvement in pocketed packing-plates for use in holding eggs, fruit, or other articles during transportation or storage; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a portion of a separating-plate involving my invention. Fig. 1^a is a top plan view thereof. Fig. 2 is a detail cross-section on about line 2 2 of Fig. 1^a. Fig. 3 is a cross-section on about line 3 3 of Fig. 1^a. Fig. 4 is a section similar to Fig. 2, showing two of the plates with the articles secured therein. Fig. 5 is a section similar to Fig. 4, showing several of the division-plates arranged to receive the articles, the latter being omitted; and Fig. 6 is an edge view of several of the plates nested.

By my invention I provided a plate in which pockets are projected to both sides of an intermediate plane, in which the curves of all adjacent pockets in all directions merge on gradual lines with each other, in which no portion of the surface of the plate adjacent to its pockets is formed in a flat plane, and whose surface intermediate and uniting its pockets curves in all directions on lines which merge with the curvature of the pockets, so that no flat surface meets a curved surface throughout the pocketed area of the plate. This construction is important in the completed division-plate, because by it I avoid any angles or corners or abrupt joints at the open side or mouth of the pockets, but provide at such sides an outwardly-flaring mouth, so that the danger of breaking or injuring the eggs, article of fruit, or other commodity being carried is reduced to a minimum. The construction is also such as to enable me to conveniently manufacture the pocketed division-plate on an ordinary paper-making machine, in which the pulp is gathered on a gathering-roll into the form of the article sought to be produced. In such machines, as is well known, the gathering-roll

dips into the pulpy mass and exhaust is produced within the gathering-roll, and the material is caused to adhere to the perforated gathering-roll, which latter is given the form of the article to be produced. If, therefore, abrupt angles are produced at the mouth of the pockets, the pulp will not gather at such points, and the completed article will be so weak at the margins of the pockets that the latter will readily break out. This renders it important to so form the article as to avoid the production of angles at any point, and this I do by making the entire surface of the division-plate curved or waved uniformly, forming the alternate pockets, which open on opposite sides of the division-plate, so that the articles when packed will alternate, as is desired.

In the construction shown the division-plates A, which may preferably be formed of paper-pulp, are shown as provided with the upwardly-rounded portions A', forming the downwardly-opening pockets, and with the downwardly-rounded portions A'', forming the upwardly-opening pockets, the adjacent pockets in all directions being united by a gradual curved or waved surface, so that the open end or mouth of each pocket is flared gradually in such manner as to avoid any injury to the article being packed at the margin or mouth of the pocket. As shown, the pockets are formed generally in spherical shape to receive the spherical body, such as shown in Fig. 4. It will be understood, however, that the pockets may be formed to receive articles of any desired uniform shape. It should be understood that the shape of the article will also control the shape of the pocket, and in practice I find that the quarter-height section of the article to be packed, or, in other words, the horizontal section taken at about one-fourth of the height of the article, determines generally the outline of the base or unit of the pocket to receive such article. Thus, as indicated in Fig. 1 of the drawing, the outline of the base or unit of the pocket to receive a spherical article would be round, and the outline of such bases will ordinarily be on straight lines and in a common plane. Further, it will be understood that in the case of articles, such as a pear, which ordinarily are carried on the side, the quarter-height section of such article will approximate a triangle and the bases or units will be correspondingly formed and, like those shown in

Fig. 1, will be on straight lines and in a common plane.

As will be understood from Figs. 4, 5, and 6, the boundary edges at *a* of the division-plates A constitute extensions of the adjacent or border pockets, flaring outwardly at the mouth of said pockets, thus forming protecting-lips and also operating as spacing projections at the edge of the plate to abut a case in which the division-plates may be placed. Thus the plate being waved or curved uniformly in all directions to form the pockets is provided at its edges with the curved or waved marginal strips, which constitute protecting-lips for the row of pockets at the border of the plate and also operate as spacing projections at the edge of the plate.

As the greatest number of spherical or ovate units can be placed in a container of given dimensions only when the units are so placed with reference to each other that they overlap to their respective middles, the obvious way to maintain the units in this position is to provide a separating-plate with pockets opening in alternate series on opposite sides of the plate, which result I secure by my construction in the most advantageous manner.

It will be noticed that the division-plates when made of paper-pulp or similar material will be comparatively rigid as to their egg-receiving units or pockets and somewhat flexible as to the lines along the curve-reversing line, so it will possess the strength of the dome or arch in the pockets to protect the

eggs and also the desired flexibility to permit its adjustment or yielding when in use.

In practice the division-plates may be separated into sections, so they can be used as packages in selling the eggs.

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

1. As an improved article of manufacture, a pocketed division-plate for packing-cases composed of paper-pulp having its alternate pockets projecting from its opposite faces and having its curved pockets united each with the adjacent pockets by gradually-curved surfaces which curve in all directions on lines merging with the curvature of the pockets and in which no flat-surface meets a curved surface throughout the pocketed area of the plate, the edges of the plate being waved longitudinally and curved transversely and forming protecting-lips for the border series of pockets and spacing projections at the edge of the plate, substantially as and for the purposes set forth.

2. A pocketed division-plate having similar pockets on both faces, and whose surface intermediate and uniting its pockets is curved in all directions on lines merging with the curvature of the pockets.

CLARENCE J. VOORHORST.

Witnesses:

SOLON C. KEMON,
PERRY B. TURPIN.