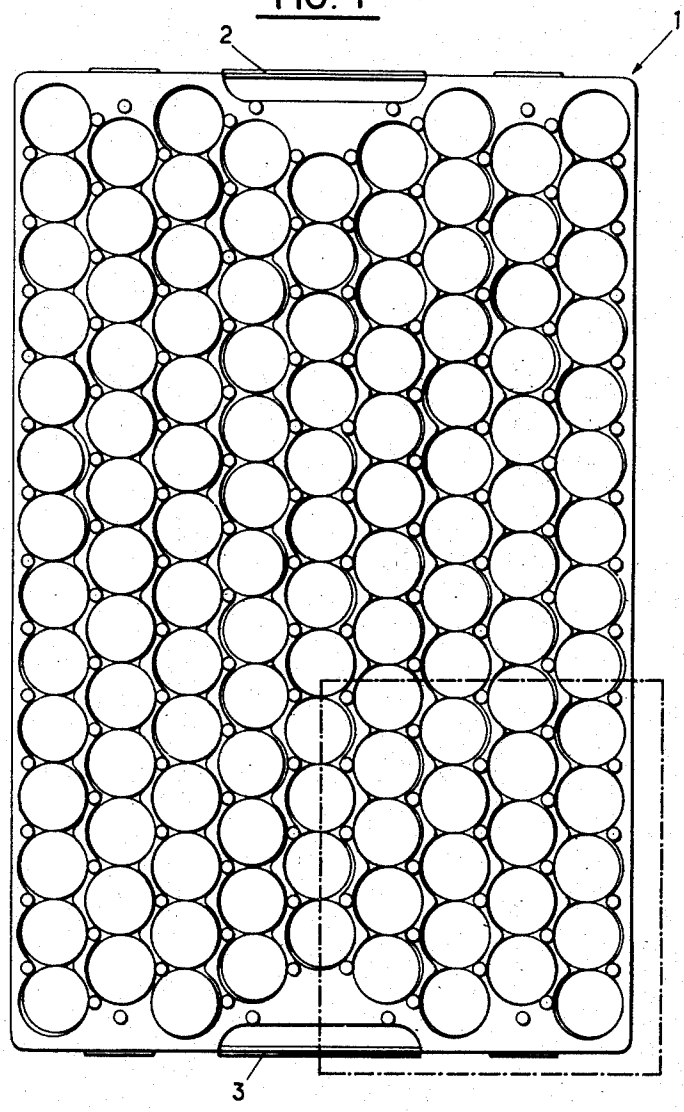
March 1, 1960 A. STUDLER 2,926,809

EGG RACKS

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FIG. 1



INVENTOR
Annick Studler
By Holcombe, Wetherill & Brisebois
ATTORNEYS

March 1, 1960 A. STUDLER 2,926,809

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FIG. 2

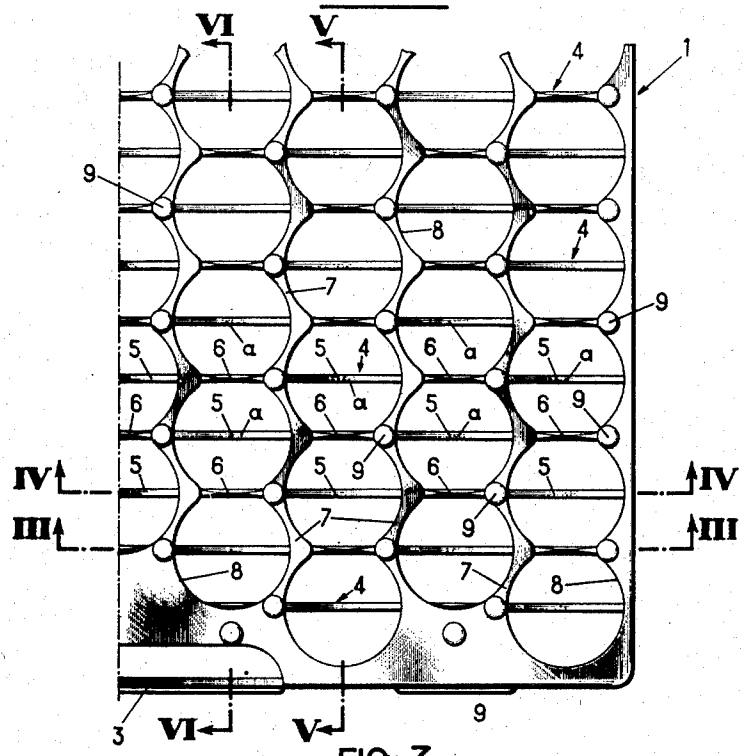


FIG. 3

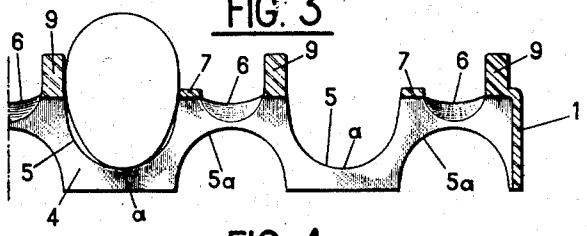
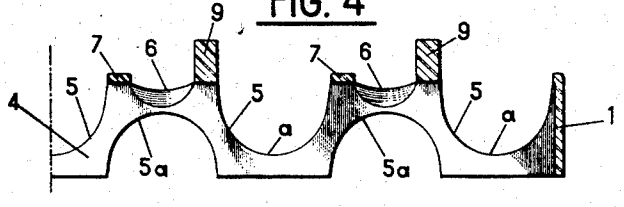


FIG. 4



INVENTOR

Annick Studler

By Holcomb, Wetherill & Brisebois

ATTORNEYS

March 1, 1960 A. STUDLER 2,926,809

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FIG. 5

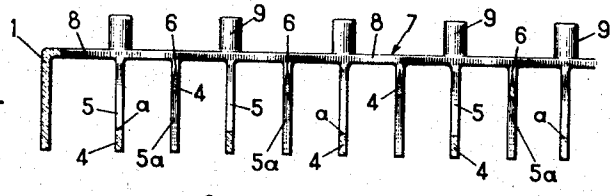


FIG. 6

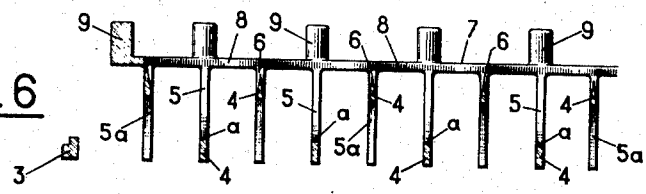


FIG. 7

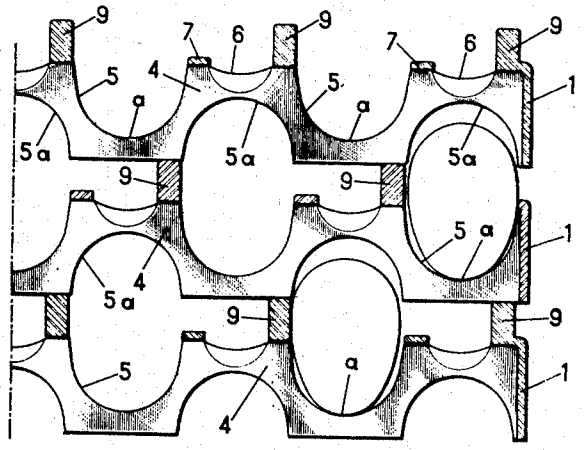
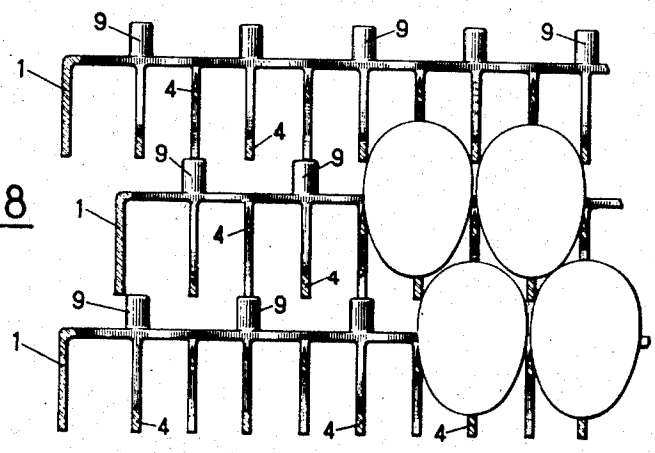


FIG. 8



INVENTOR

Annick Studler

By Hirkomb, Vetterlein & Bauchino

ATTORNEYS

March 1, 1960 A. STUDLER 2,926,809

EGG RACKS

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FIG. 9

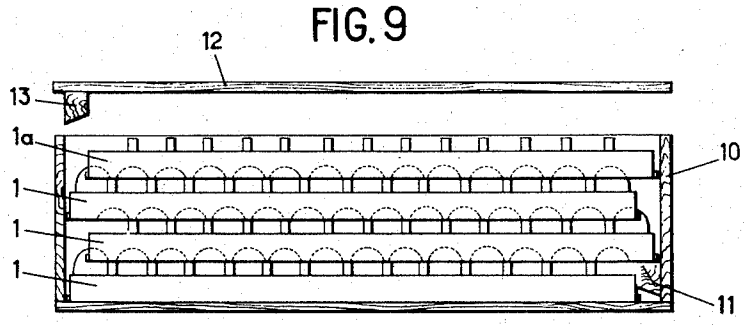


FIG. 10

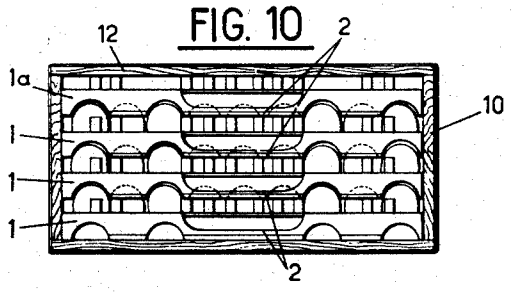


FIG. 11

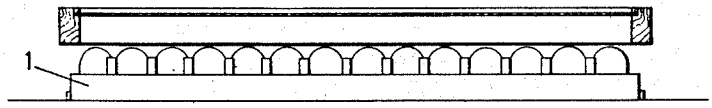


FIG. 12

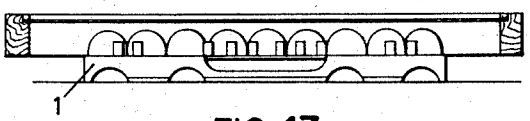
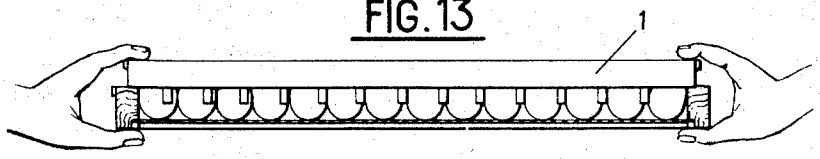


FIG. 13



INVENTOR
Annick Studler
By Holcomb, Wetherill & Brisebois
ATTORNEYS

United States Patent Office 2,926,809 Patented Mar. 1, 1960

2,926,809

EGG RACKS

Annick Studler, Le Foeil, France

Application August 12, 1957, Serial No. 677,484

Claims priority, application France June 13, 1957

5 Claims. (Cl. 217—30)

My invention relates to a new article of manufacture consisting of a rack for packaging eggs, particularly eggs which are to be incubated, both while they are being transported and after they have arrived at and been placed in the incubator, so as to avoid the necessity for placing the eggs in cells of molded paper and then placing these cells in the conventional racks for insertion into the incubators.

The rack conforming to my invention is characterized by the fact that it comprises a number of rows of cells formed by three suitably spaced parallel partitions extending transversely of the rack and provided on their lower edges with semi-circular recesses having a radius corresponding to the size of a normal egg, and on their upper edges with a second set of semi-circular recesses, the diameters of the odd recesses in this second set being different from these of the even recesses. These partitions are so positioned with respect to each other that each of the larger recesses of the second or upper set is located in alignment with two smaller recesses, one in each of the adjacent partitions, so as to form, in conjunction with suitably shaped parallel frame members, connecting the upper edges of the partitions and extending longitudinally of the rack, nearly wall-less cells in which the sized eggs are supported in a vertical position with only their ends resting on the central portion of the large recess in the central supporting partition and laterally supported on at most two or three points on the walls adjoining the cell.

By virtue of this arrangement the surface of the egg is freely exposed to the ambient air, a condition which is essential to the preservation of fertile eggs when they are being transported, and is perfectly suited to their incubation once they have arrived at the incubator. For shipment of the eggs, two, three, or more racks are superposed in a shipping crate provided with suitable fastening means, the racks being alternately displaced in a lateral or longitudinal direction. In this manner the eggs in each rack except the top one are covered by the recesses in the lower edges of the partition placed immediately thereabove, the eggs of the uppermost rack being held in place by the cover of the packing crate.

In order that the invention may be more readily understood one specific embodiment thereof will now be described, purely by way of example, and without limiting the scope of the invention to the specific details thereof as shown on the accompanying drawings.

In the drawings:

Figure 1 is a plan view of this embodiment, with eggs in its cells;

Figure 2 is a plan view, on an enlarged scale, of the portion of Figure 1 enclosed by the broken line; the cells of this portion being shown empty;

Figure 3 is a cross-sectional view taken along the line III—III of Figure 2;

Figure 4 is a cross-sectional view taken along the line IV—IV of Figure 2;

Figure 5 is a cross-sectional view taken along the line V—V of Figure 2;

Figure 6 is a cross-sectional view taken along the line VI—VI of Figure 2;

Figure 7 is a fragmentary transverse cross-sectional view showing the staggered relationship between the superposed racks;

Figure 8 is a fragmentary longitudinal cross-sectional view showing the staggered relationship between the superposed racks;

Figures 9 and 10 show three racks constructed in accordance with the invention superposed within a shipping crate; and

Figures 11, 12 and 13 show schematically the steps required to transfer a group of eggs as a unit from a rack embodying the invention to a hatching rack.

The rack constituting the invention is preferably made of a molded plastic material. It may be molded in one piece or comprise a plurality of elements assembled together by any appropriate means.

In the embodiment shown in the drawings, such a rack comprises an outer frame **1** having at two of its ends the recessed members **2** and **3** which serve as handles.

As has already been indicated, the longitudinal walls of the frame **1** are connected by partitions **4** provided with semi-circular recesses **5** having radii corresponding to that of the largest cross-section of an egg, alternating with other recesses **6** having smaller radii. These partitions are so arranged that the recesses **5** and **6** of the partitions are staggered with respect to each other, that is to say, so that each of the larger recesses **5** is positioned in alignment with two of the smaller recesses **6** in the adjacent partitions, as shown best in Figures 2, 3 and 4.

The innermost portions of the recesses **5** and **6** are connected by ribs **7** which are perpendicular to the partitions and provided with curved recesses **8** and projections **9** which permit superposition of the racks.

Opposite each of the smaller recesses **6** is a recess **5***a* having the same radius as the recesses **5**.

As will readily be understood, when the eggs are placed in the cells constructed in this manner, with their narrower ends down (Figures 3, 7 and 8), they are supported vertically by their narrow ends which bear at *a* on the bottoms of the larger recesses **5** and laterally by the engagement of very small areas of their sides with the elements forming the cells.

Figures 7 and 8 show the respective positions of the partitions **4** of three racks which are superposed and staggered with respect to each other, as well as the position of the eggs in each of these racks.

Figures 9 and 10 show how the three racks which are superposed and staggered with respect to each other may be packed and immobilized for transportation in a crate **10**. This crate comprises one or more blocks **11** in its lower part which serve to immobilize the lower rack. A fourth rack **1***a*, which is empty, covers and holds in place the eggs of the uppermost egg-carrying rack. A cover **12**, also provided with one or more blocks **13**, immobilizes the empty upper rack **1***a*.

The eggs thus packed, without any other packaging material, are transported to the incubator in a perfectly safe and well ventilated manner.

It should be noted that racks conforming to the invention may be completely disinfected, since they may, with or without eggs, be plunged into an appropriate disinfecting bath without any danger of deterioration.

This facilitates the candling of eggs on the fifth day, since the eggs may be individually removed from their cells.

Moreover, the lateral handles **2** and **3** make it possible to easily remove the racks from the packing crate, main-

tain them in a horizontal position while they are being placed in the incubator, and to turn them over, without risk of breakage, as shown in Figures 11, 12, and 13, after candling, at the eighteenth day, for hatching.

It will of course be understood that the invention is not limited to the specific embodiment herein described, and that this embodiment may be modified in many details without thereby departing from the spirit of the invention as defined in the following claims.

What I claim is:

1. A rack provided with a plurality of rows of cells for holding eggs to be incubated and comprising at least three parallel partitions connected by a plurality of transverse ribs and laterally separated by a distance substantially equal to half the width of a normal egg, the lower edges of said partitions being provided with a first set of linearly spaced arcuate recesses having the width of a normal egg, the upper edges of said partitions being provided with a second set of arcuate recesses, alternate recesses in said second set being of substantially the same size as those in the first set and the remainder being substantially smaller, each of the larger recesses in the second set of recesses in the middle partition lying between a pair of smaller recesses located in the two adjacent partitions so as to form therewith a cell for the support of an egg with only a small portion of its surface area in contact with said partition recesses.

2. A rack for supporting eggs comprising at least one set of three parallel vertical partitions, the upper edges of each partition being provided with a plurality of regularly spaced recesses, alternate recesses having a width equal to that of a normal egg and a depth equal to half the length of a normal egg, and the remaining recesses being smaller, said partitions being staggered with respect to each other with each of the larger recesses in the central partition in alignment with a smaller recess in each of the adjacent partitions, and transverse connecting means on which said partitions are spaced by a distance

equal to approximately one half the width of a normal egg so that each combination of one deep and two adjacent shallower recesses forms a cell adapted to receive and support an egg.

3. A rack as claimed in claim 2 in which the lower edges of each partition are provided with recesses having a width equal to that of a normal egg and a depth equal to half the length of a normal egg, said recesses lying beneath the shallower recesses in the upper edge.

4. A rack as claimed in claim 2 in which said transverse connecting means consists of a plurality of ribs provided with vertical projections adapted to support a superposed rack.

5. A rack assembly provided with a plurality of rows of cells for holding eggs to be incubated, said assembly comprising a plurality of superposed racks, each of which is provided with a plurality of horizontal ribs connecting at least three transverse parallel vertical partitions, the lower edges of said partitions being provided with a first set of linearly spaced arcuate recesses, having the width of a normal egg and the upper edges of said partitions being provided with a like set of arcuate recesses staggered with respect to the first set, each partition being in vertical alignment with a partition on each of the superposed racks, with the recesses in the upper edges of each partition in alignment with the recesses in the lower edges of the partition immediately thereabove and the recesses in the lower edges of each partition in alignment with the recesses in the upper edges of the partition immediately therebelow to form therewith cells for the reception of eggs, the recesses in each partition being staggered with respect to those in the adjacent partitions connected thereto by said ribs.

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