A. ASTLEY.

PACKING BOX FOR EGGS AND OTHER FRAGILE ARTICLES.

APPLICATION FILED OCT. 19, 1914.

1,178,485.

Fig. 1

Fig. 2

Witnesses:

Alfred Astley

Patented Apr. 11, 1916.

THE COLUMBIA PLAINOGRAPH CO., WASHINGTON, D.C.
PACKING-BOX FOR EGGS AND OTHER FRAGILE ARTICLES.


Application filed October 19, 1914. Serial No. 867,503.

To all whom it may concern:

Be it known that I, ALFRED ASTLEY, residing at London, in England, have invented certain new and useful Improvements in Packing-Boxes for Eggs and other Fragile Articles, of which the following is a specification.

This invention is for improvements in or relating to packing-boxes or carriers for eggs or like fragile articles, and has for its object to provide an improved form of packing-case in which the articles are easily inserted and easily withdrawn, but are efficiently protected against shock, the box itself moreover being inexpensive in construction and durable.

The packing-box belongs to the type in which the articles are suspended by stretched cords or threads. It has been proposed previously to provide egg-boxes with a series of parallel cords or two series of crossed cords spaced apart in such way that eggs could be thrust endwise into the mesh formed between the cords, and in some cases article or partitions have been mounted on the cords to divide the lengths of the parallel cords into sections adapted each to receive an egg, but these partitions have either been fixed relatively to the cords or each cord has been made to serve a plurality of groups of cords for carrying a series of rows of articles, so that if the partition were moved it would affect all the groups of cords served by the partition. It is found that eggs when set endwise in a mesh tend to shoot through the mesh if the box is set down heavily and though provision may be made at one end to prevent this, it cannot be made at both ends without rendering it difficult to withdraw the eggs from the mesh. Moreover, if eggs are placed broadside into a mesh or cradle, there is a tendency for the small ones to slip through when the box is set down heavily, and this applies generally to articles whether of egg-shape or other form, that is to say, if the stretched cords are spaced to suit articles of a medium size, some of the larger articles may be difficult to insert and the smaller ones will be too easily displaced.

According to the present invention therefore, a cradle for gripping each article is composed of a series of parallel flexible cords stretched between supports and so spaced apart as to grip at least four points an article thrust in between them, and partition-pieces are mounted on those cords which constitute the carriers for one row of articles, the said partitions being allotted one to each article and embracing all the cords for one series of articles along which cords they are free to slide, the points of engagement between the cords and partition-pieces being such that the cords at these points will be sufficiently close together to grip the smallest article for which the box is designed. By this arrangement of partitions allotted one to each cradle and sliding on the cords which constitute an end-to-end series of cradles, any one cradle can be slackened or tightened up to suit the size of any one article, and thus displacement of the smaller articles or jamming of the larger articles is prevented.

In the accompanying drawings,—Figure 1 is a perspective view showing one construction of packing-box in accordance with the present invention, and Fig. 2 is a perspective view of a modified construction, a part of one side being broken away to show some details.

The same letters indicate the same parts throughout the drawings.

The packing-box A as shown in Fig. 1 is stoutly built of wood suitably reinforced at the corners B, to render it strong and durable. A lid C is hinged on one side and provided with a suitable hasp or other means whereby the box can be locked during transit. On the opposite sides A1, A2 of the body of the box there are secured a pair of wires D1 and D2 lying parallel to one another along the side of the box. The upper pair of wires D1 are connected by a series of pairs of flexible cords E. Ordinary string is found to be quite suitable. The cords of each pair are spaced apart somewhat less than the width of the article which is to be packed, and the cords are sufficiently elastic to allow the articles to be forced in between them. The lower wires D2 are similarly connected by pairs of cords E2, which are preferably situated directly under corresponding pairs of cords E, and are similarly spaced. The articles which are
to be packed are inserted between the upper pair of cords \( E \) and lie on the lower pair of cords \( E' \), and are thus supported clear of the sides of the box in a flexible cradle. In order to maintain the articles properly spaced along one set of the cords, separators \( F \) are provided. These conveniently take the form of small sheets of cardboard perforated and threaded upon the four cords forming a cradle, and it will be appreciated that these partitions are adjustable according to the size of the articles to be packed. The perforations in the cardboard are so spaced that the cords are drawn in toward one another so as to be smaller than the smallest egg which is to be packed; this ensures that any egg will be securely retained by the cords when inserted between them. The side of the box may be recessed as at \( A^2 \) to receive the knots of the cords on the wires \( D^0 \ D^2 \). It will readily be understood by those familiar with the art that the cords may be secured in position in any desired manner, and also that the wires to which the cords are secured may be shaped to meet the various requirements, without departing from the spirit and scope of my invention as defined in the appended claims.

In inserting an article, the two cords of a pair \( E \) are sprung apart laterally and the article pushed between them. When it engages the opposed pair of cords \( E' \) it forces them downward, at the same time as the cords \( E \) close down upon it and grip it. It will thus be seen that the cords of each pair are sprung apart, and also the two layers of cords are sprung apart so that the article is gripped in two directions at right angles to one another, and is effectively held from displacement.

In the packing-box illustrated in Fig. 2, the construction is the same as that shown in Fig. 1 except that strips \( G \) of webbing or other fabric are provided, and lie transversely on the bottom layer of cords; these strips are secured at each side of the box, by gripping them between the side of the box and the bottom when the box is being assembled; or they may be secured to the box in any other desired manner. These strips are used when the articles are such as might be cut by the cords when the box or carrier is subjected to considerable shock as by dropping it. The fabric distributes the shock over a larger area of the article and prevents it being cut.

It will be seen that this invention therefore provides a box suitable for packing eggs and other fragile articles which are such as would not be damaged by the pressure of the cords upon them. When the articles are inserted in position, the cords are tightened up owing to the space between them being somewhat less than the size of the article, and the elasticity of the cords is sufficient to permit of this and to provide a yielding support for the articles, which maintains them out of contact with the material of the box so that, although the box may be subjected to shock, no injury is done to the articles packed in it.

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

1. A packing box for fragile articles having four flexible cords supported therein and arranged to grip the sides of the article held between them, and a plurality of slidable partition pieces on said cords, said partitions being arranged to be placed between the articles to be supported by the cords; substantially as described.

2. A packing box for fragile articles having a plurality of sets of flexible cords supported in a stretching position within said box, each set being arranged to grip articles between them, partition pieces slidably mounted on each set of cords, said partition pieces being arranged to be placed between adjacent articles held by the same set of cords, and strips of fabric laid across the bottom cords of each set, said strips extending across all of the bottom cords of each set between partitions; substantially as described.

3. A packing box for fragile articles having sides and ends, a plurality of sets of cords stretched between the two sides of the box and arranged to grip a plurality of articles to be suspended thereby, there being a plurality of partitions slidably mounted on each set of cords, said partitions being arranged to be spaced between adjacent articles suspended by the cords, and strips of fabric supported on the bottom cords of each set between the partitions; substantially as described.

4. In a packing box for fragile articles, the combination of parallel flexible cords stretched between supports and so spaced as to grip at four points an article thrust in between them, and partition pieces for each group of cords whose units cooperate to carry an article, the said partition pieces being free to slide along the cords and being placed one between each article and the next and engaging all the cords of the group in such a way as to positively hold them sufficiently close together to grip the articles to be carried when pushed between them; substantially as described.

5. In a packing box for fragile articles, the combination of a group of four parallel flexible cords stretched between supports and so spaced as to each grip an article thrust in between them, and partition pieces for each group of four cords, the said partition pieces being free to slide along the cords and being placed one between each article and the next and engaging in such a way as to positively hold all four cords at
the four points of a square sufficiently close together to grip the articles to be carried when pushed between them; substantially as described.

6. In a packing box for fragile articles, the combination of parallel flexible cords stretched between supports and so spaced as to grip at four points an article thrust in between them, partition pieces for each group of cords whose units coöperate to carry an article, the said partition pieces being free to slide along the cords and being placed one between each article and the next and engaging all the cords of the group in such a way as to positively hold them sufficiently close together to grip the articles to be carried when pushed between them and strips of fabric laid across the bottom cords and extending over the bottom cords of adjacent groups transversely to the direction of the cords, for the purpose described.

7. In a packing box for fragile articles, the combination of straight supporting rods secured to opposite sides of the box, parallel flexible cords stretched between these supporting rods and so spaced as to grip at four points an article thrust in between them, and partition pieces for each group of cords whose units coöperate to carry an article, the said partition pieces being free to slide along the cords and being placed one between each article and the next and engaging all the cords of the group in such a way as to positively hold them sufficiently close together to grip the articles to be carried when pushed between them; substantially as described.

8. In a packing box for eggs the combination of parallel flexible cords stretched between supports and so spaced as to grip the eggs at four points when thrust between them with the longitudinal axis of the eggs parallel to the cords, and partition pieces for each group of cords whose units coöperate to carry an egg, the said partition pieces being free to slide along the cords and being placed one between each egg and the next and engaging all the cords of the group in such a way as to positively hold them sufficiently close together to grip the eggs to be carried when pushed between them with the longitudinal axis of the eggs parallel to the cords; substantially as described.

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

ALFRED ASTLEY.

Witnesses:

HAROLD H. SIMMONS,
A. M. HAYWARD.

Copies of this patent may be obtained for five cents each, by addressing the “Commissioner of Patents, Washington, D. C.”