

(No Model.)

W. E. WILLIAMS.
PROCESS OF MANUFACTURING CELL CASES.

No. 533,331.

Patented Jan. 29, 1895.

Fig. 1.

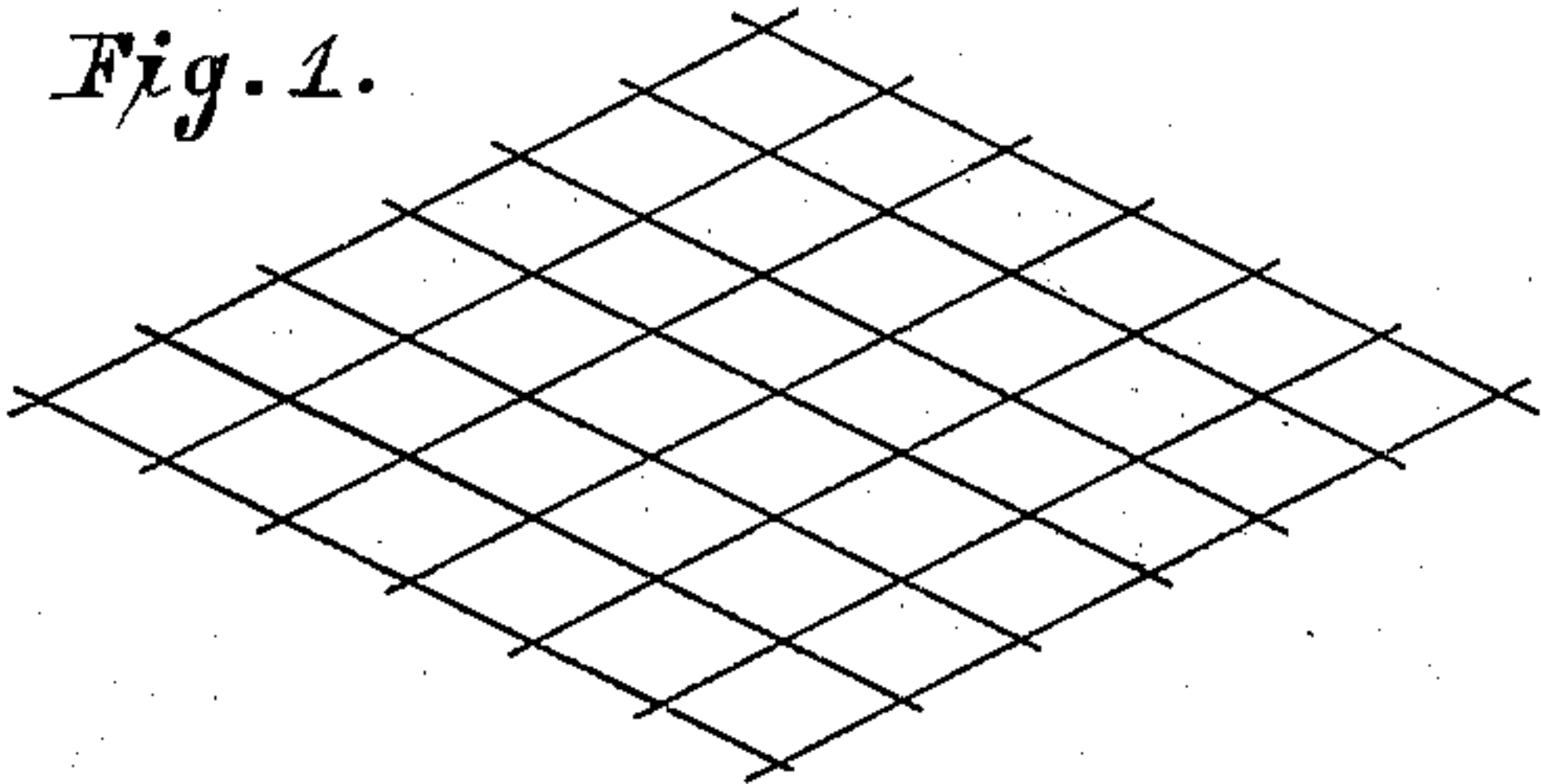


Fig. 2.

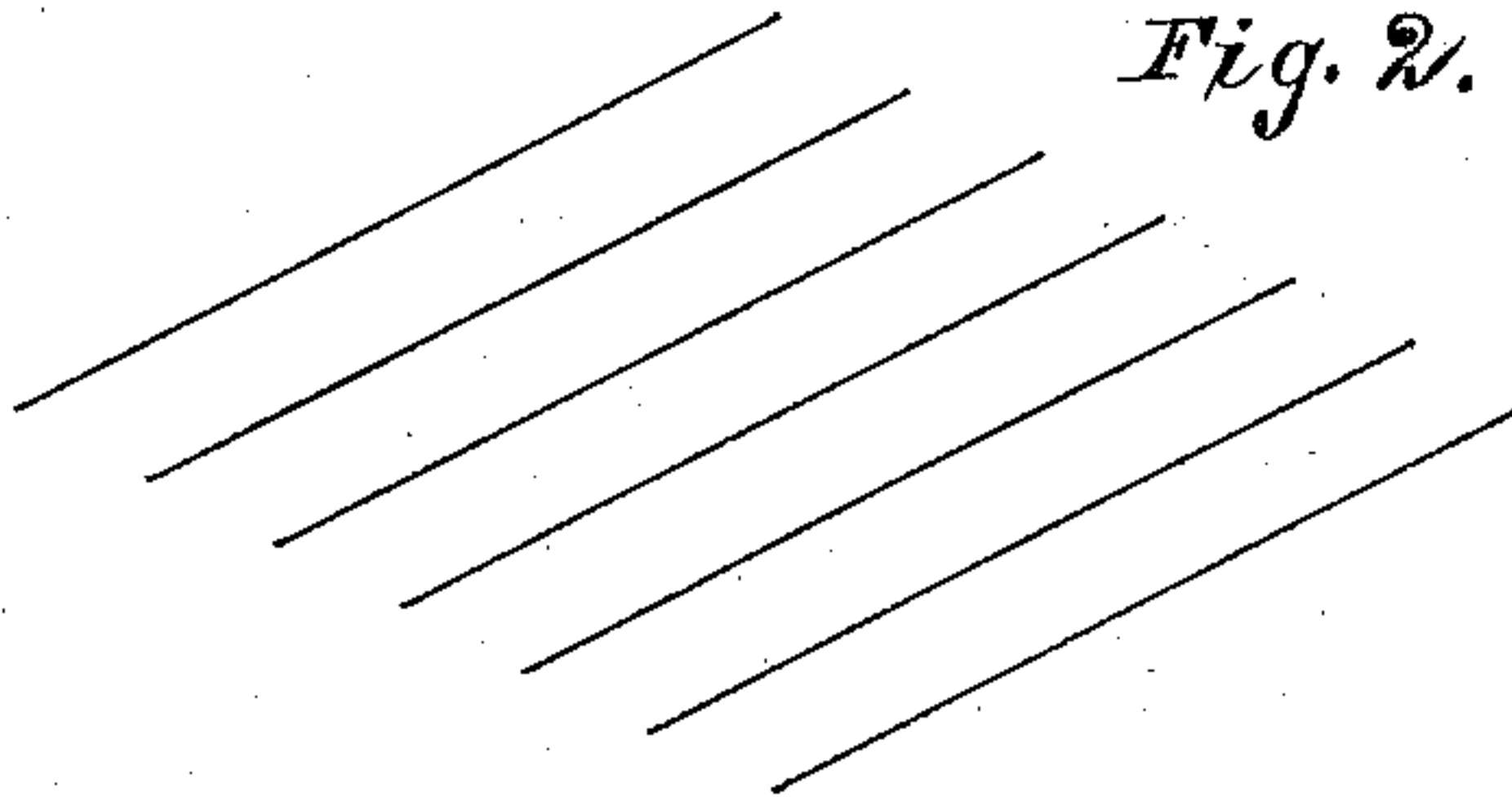


Fig. 3.

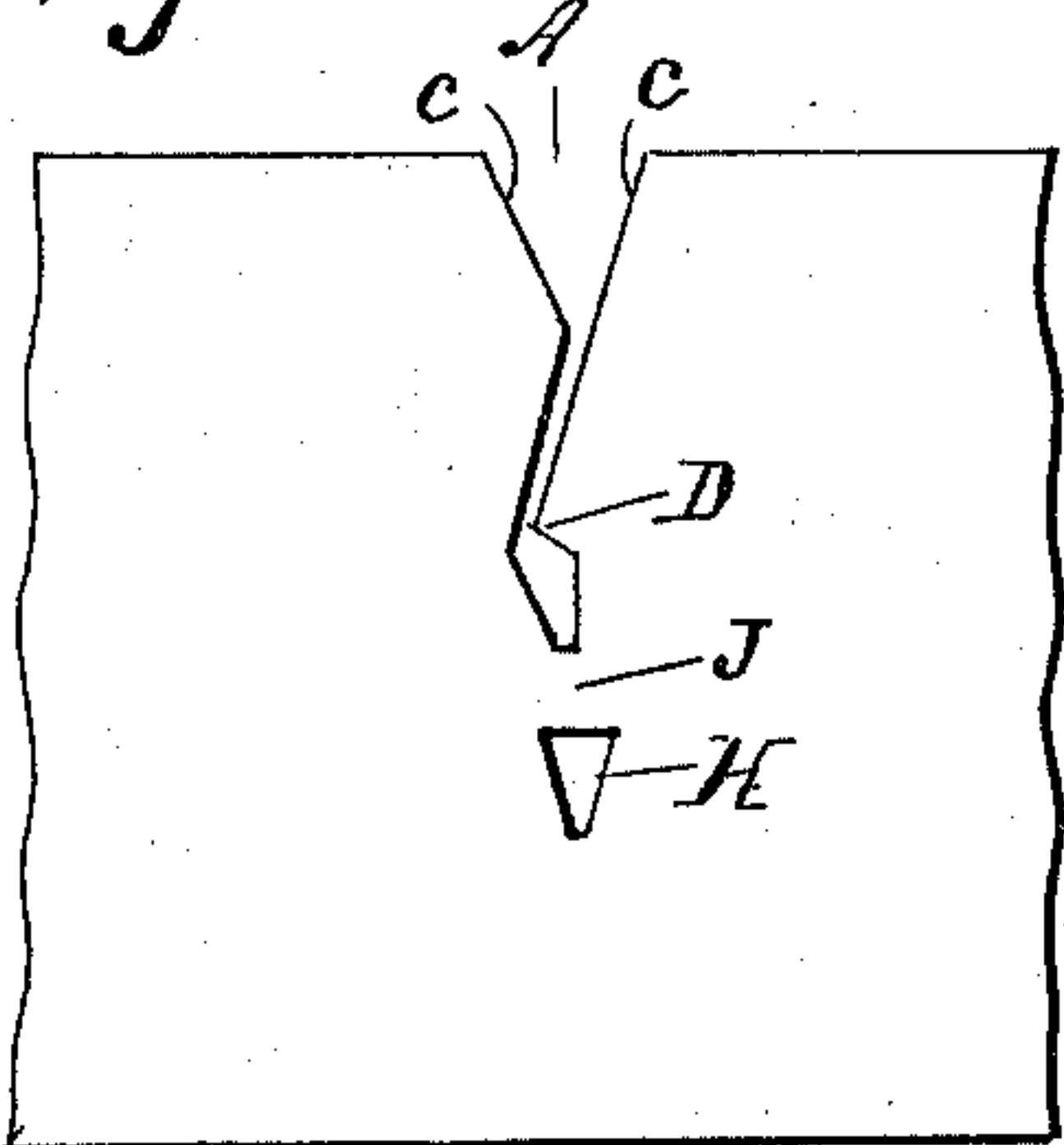


Fig. 4.

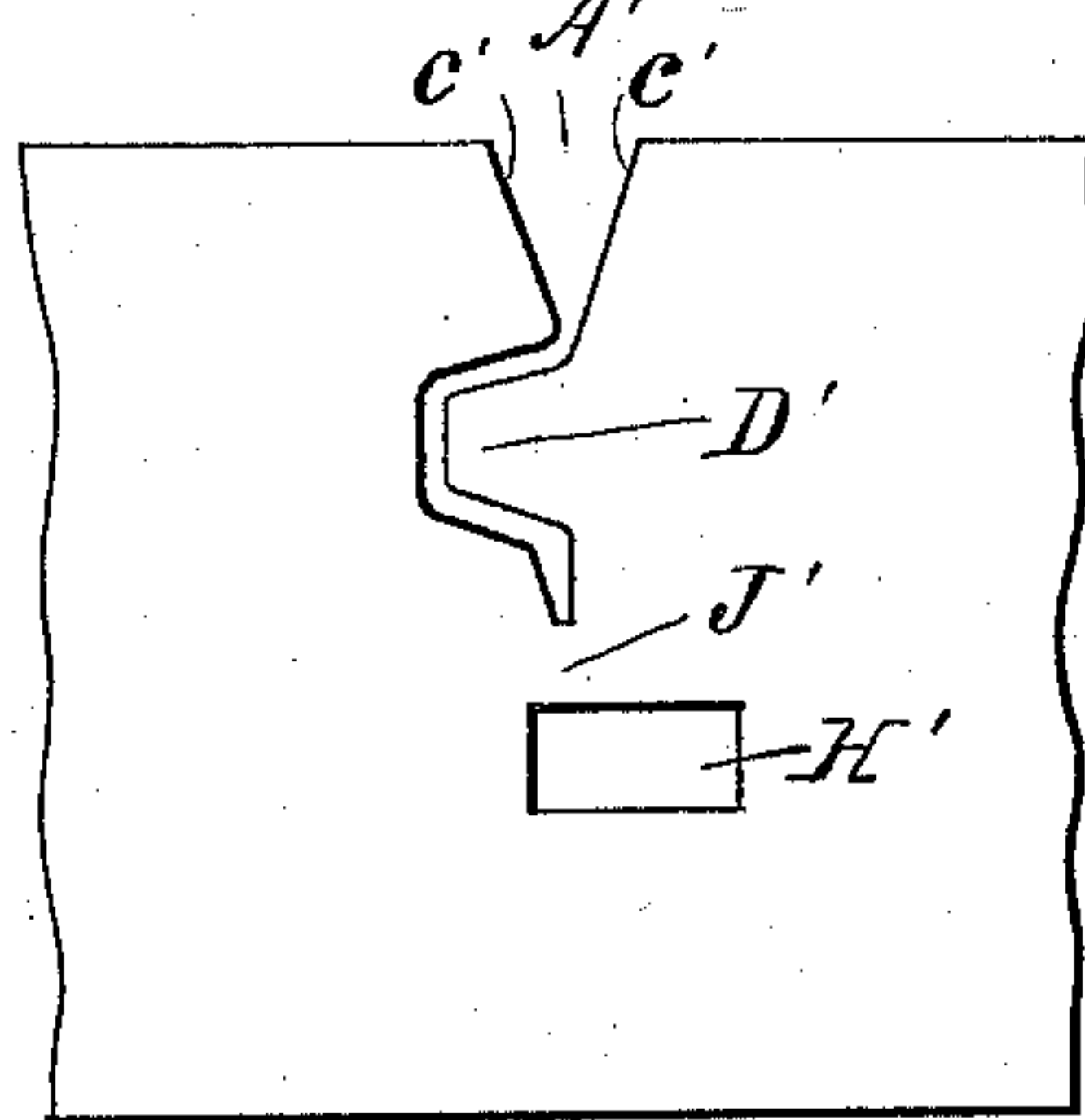
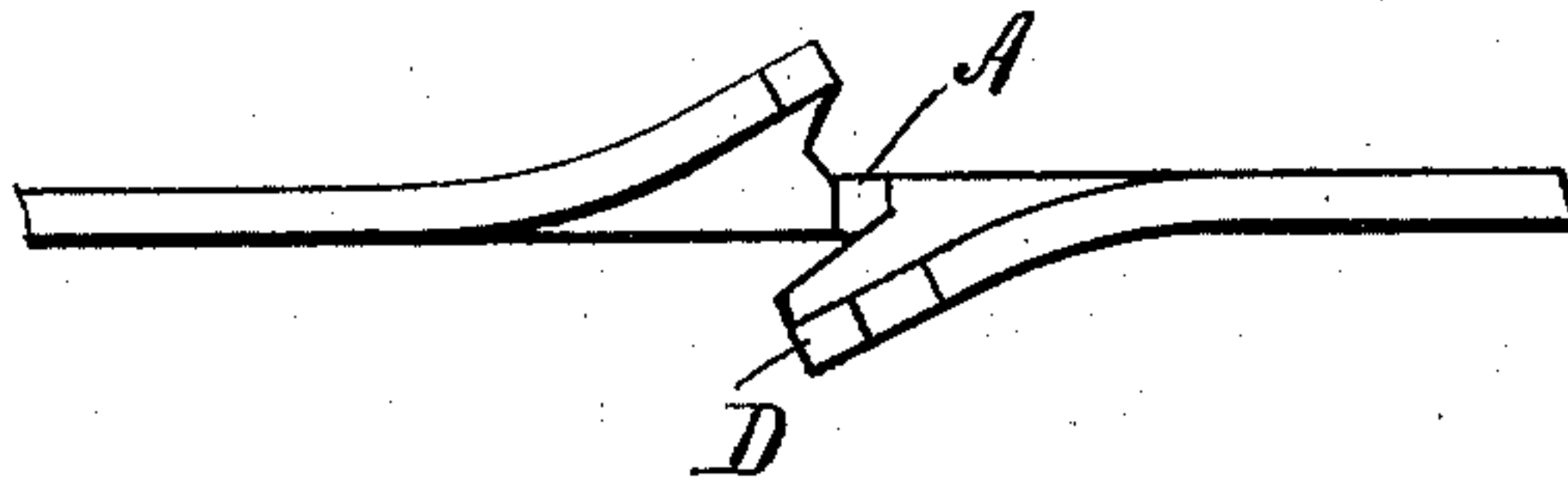


Fig. 5.



witnesses:

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By Wallace Greene, Atty-

UNITED STATES PATENT OFFICE.

WILLIAM E. WILLIAMS, OF CHICAGO, ILLINOIS.

PROCESS OF MANUFACTURING CELL-CASES.

SPECIFICATION forming part of Letters Patent No. 533,331, dated January 29, 1895.

Application filed July 8, 1892. Serial No. 439,374. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ERASTUS WILLIAMS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in the Process of Manufacture of Cell-Cases, of which the following is a specification.

My invention relates to the manufacture of cell cases which are made by locking together from their edges strips of straw board, or other suitable material, for the purpose of transporting eggs and other articles, and it is in the manner of holding the strips while they are being put together that the invention consists.

Reference will be had to the accompanying drawings, in which—

Figure 1 shows a plan of the case in the position that it is put together. Fig. 2 shows the position of one set of strips in the position they are held when the other set is put onto them. Fig. 3 shows a section of one strip showing the form of notch and lock commonly used. Fig. 4 shows a form of lock that can be used with my process of putting the strips together. Fig. 5 shows an edge view of a section of a strip with the sides of the notch held apart in the position when the strips are put together.

Similar letters refer to similar parts throughout the several views.

Cell cases of this class are usually made of strips of straw board or wood veneer and are locked together by notches from their edges and these notches are made of sufficient width to permit the cells to collapse to permit their shipping conveniently. Various shaped notches are used to lock them together to prevent their coming apart in handling and several forms of these notches are quite effectual in holding the strips together while the cells are in the form for holding the eggs, but when collapsed and thrown about they come apart. The fault lies in the process employed in putting the strips together which process has been to place one set of strips either by hand or machinery on a suitable form parallel to each other and the right distance apart for the finished cells, and then insert the other set in the same form at right angles to the position of the other set. This

is usually done by revolving the form after the first set of strips have been placed upon it, and then the others are inserted; but there is another class of machines for making these cases wherein one set of strips are fed along in continuous strips and are notched and held into grooves the right distance apart parallel to themselves with the notches and ends in a right line to their sides and are thus passed by another set of mechanism which inserts the other strips into them at right angles thus forming the case in its right position. Thus all methods so far used lock the strips together when they are held in their right position to sets of strips at right angles to themselves. Thus the various forms of locks of the notches must be made of the shape and form, the elasticity of the material of which they are made will permit.

Straw board or wood splints have very little elasticity in the direction of stretching or compressing the fibers, either lengthwise or transversely, but it readily bends to some limit without injury, and it is to employ the bending quality I design the process of holding the strips in position while locking them together and thus the locks can be made more accented in their locking qualities, and forms of locks can be used that would not be practicable by the other method.

Fig. 3 shows the lock commonly employed and will illustrate for all that class sufficient for the purpose herein. The corners at the entrance of the notch "A" are cut away as shown by c, c, to more readily permit the entrance of the transverse strip and the projection "D" is supposed to give a little itself and to spring aside the same projection of the entering strip while being thrust in and when the strip is forced home the projection "D" is supposed to spring out and interlock into the hole "H" of the other strip, which it does, when they are in their right form, but when collapsed they are liable to come apart. I construct the form to hold the strips as near as practicable in the relative positions to each other as when the case is collapsed shown in Figs. 1 and 2. Thus the strips are held close up together and parallel to each other and each succeeding strip is held sufficiently in advance of the other to make the right distance between the notches of the next set of

strips which can then only be inserted at an acute angle forming diamond shaped cells and the construction of the form is such that the sides of the notches are bent outwardly from each other when held in the form shown by Fig. 5 permitting the entrance of the other strips and as they are forced home the projections "D" are sprung past each other and the body of the strip, shown by "J," between the hole "H" and notch "A," enter home. When they spring into their normal positions the projections "D" interlocking the hole "H" making a secure lock and when the case is removed from the form it will be right up the same as others, and the same principle of a locking as is shown by Fig. 3 can be accented to the form of Fig. 4 and make a more secure fastening and in no way damage the board out of which it is made; and other forms of locks of similar nature whereby the strips are locked together by incisions from their edges may be made more accented and secure by using my process of putting the strips together.

It is not essential that the strips be placed in a form as shown but they may be advanced along continuously but sufficiently near each other and the notches and ends of each successive strip be sufficiently in advance of the other to permit the insertion of the transverse strips at an acute angle forming diamond shaped cells as above described.

The point of my invention being to lock the strips together while the cells are partly collapsed thereby availing of the sidewise

bending of the locking parts of the board for the purpose described,

What I claim is—

1. A step in the art of making cell cases, which step consists in forming two sets of strips with interlocking perforations, and assembling the strips in relatively inclined positions to form a cell case in a collapsed or partially collapsed condition.

2. The method of forming cell cases which consists in providing the strips with suitable interlocking slots and perforations, assembling one set of strips in a suitably spaced group, placing the strips of a second set across the first set, at an oblique angle, and pressing them edgewise into said slots, substantially as set forth.

3. A process of making cell cases which consists in taking strips of straw board or other suitable material which have notches cut in their edges of a form to lock into each other when the strips are placed together transversely to each other substantially as described, and holding one set of strips parallel to each other but each successive strip in advance of the other, substantially as described, then thrusting the other strip onto the first mentioned strips forming diamond shaped cells which may be collapsed or righted up for the purpose desired.

W. E. WILLIAMS.

Witnesses:

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S. M. BROWN.