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PAPER BOX.

No. 500,295. Patented June 27, 1893.

Fig. 1.

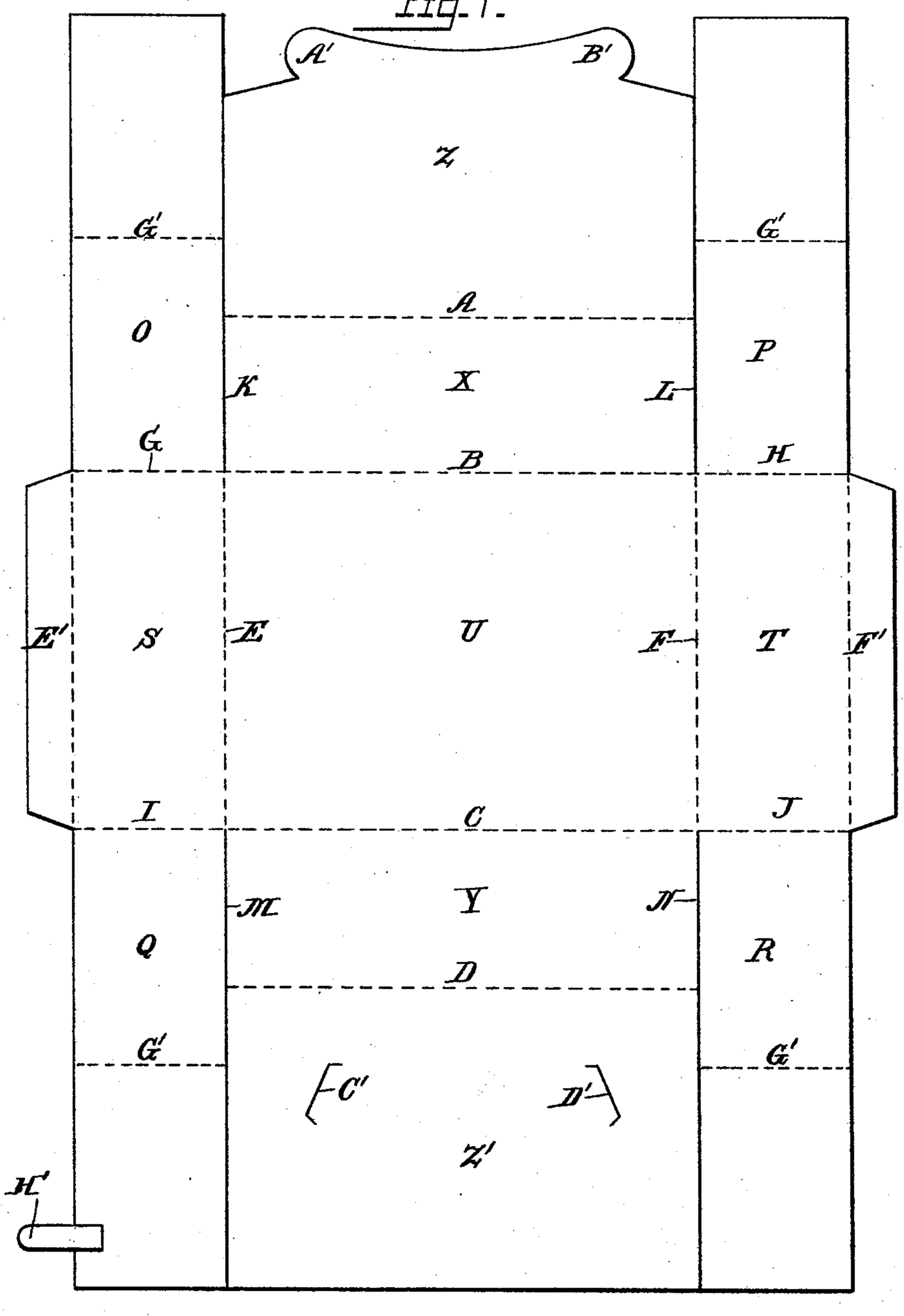

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Fig. 2.

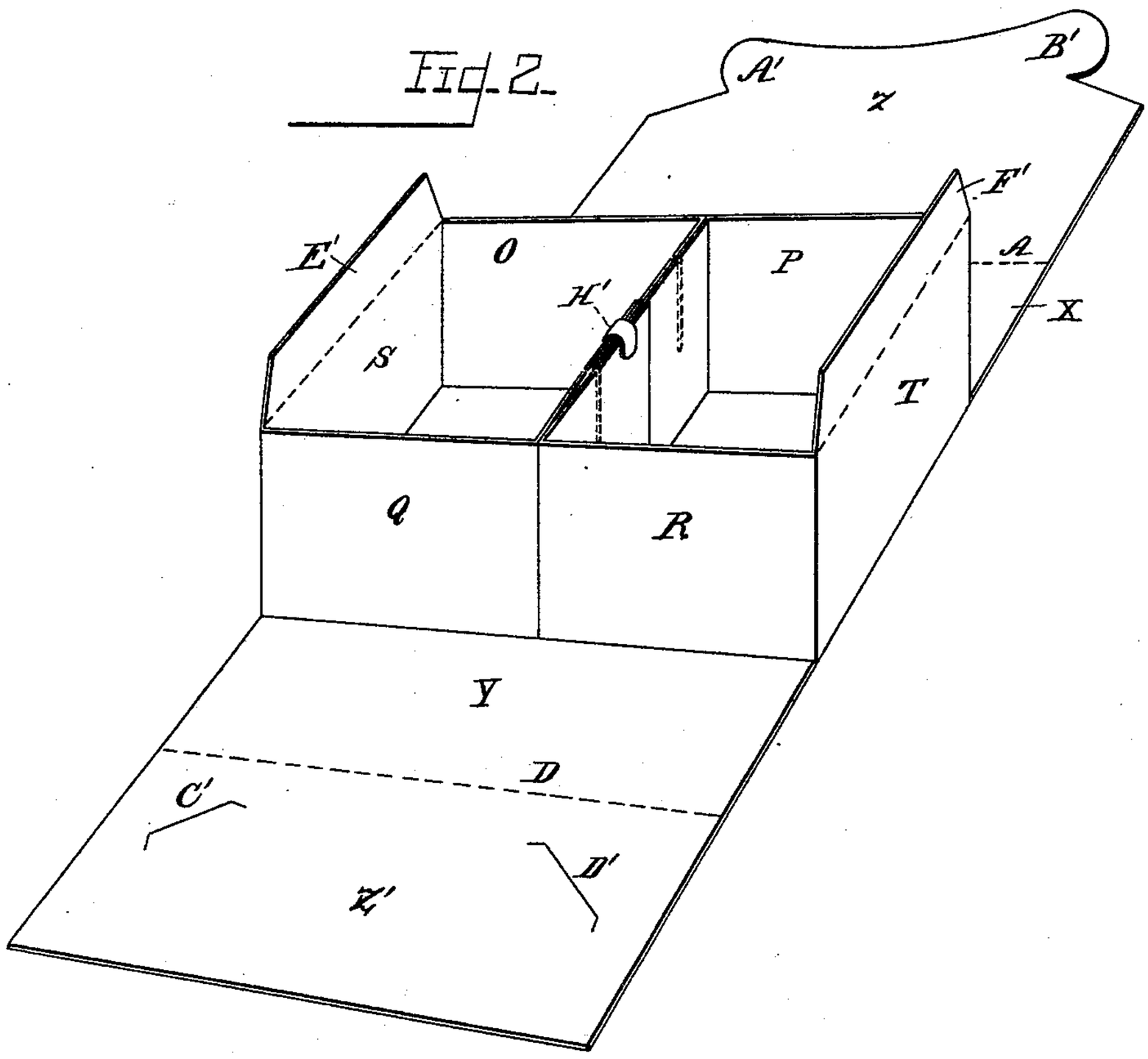

Fig. 3.

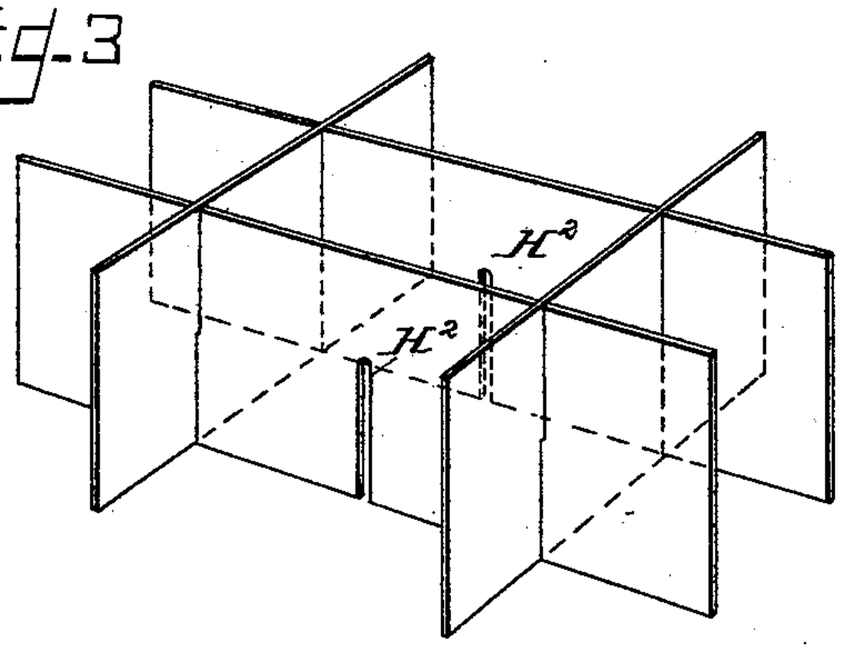

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Fig. 4.

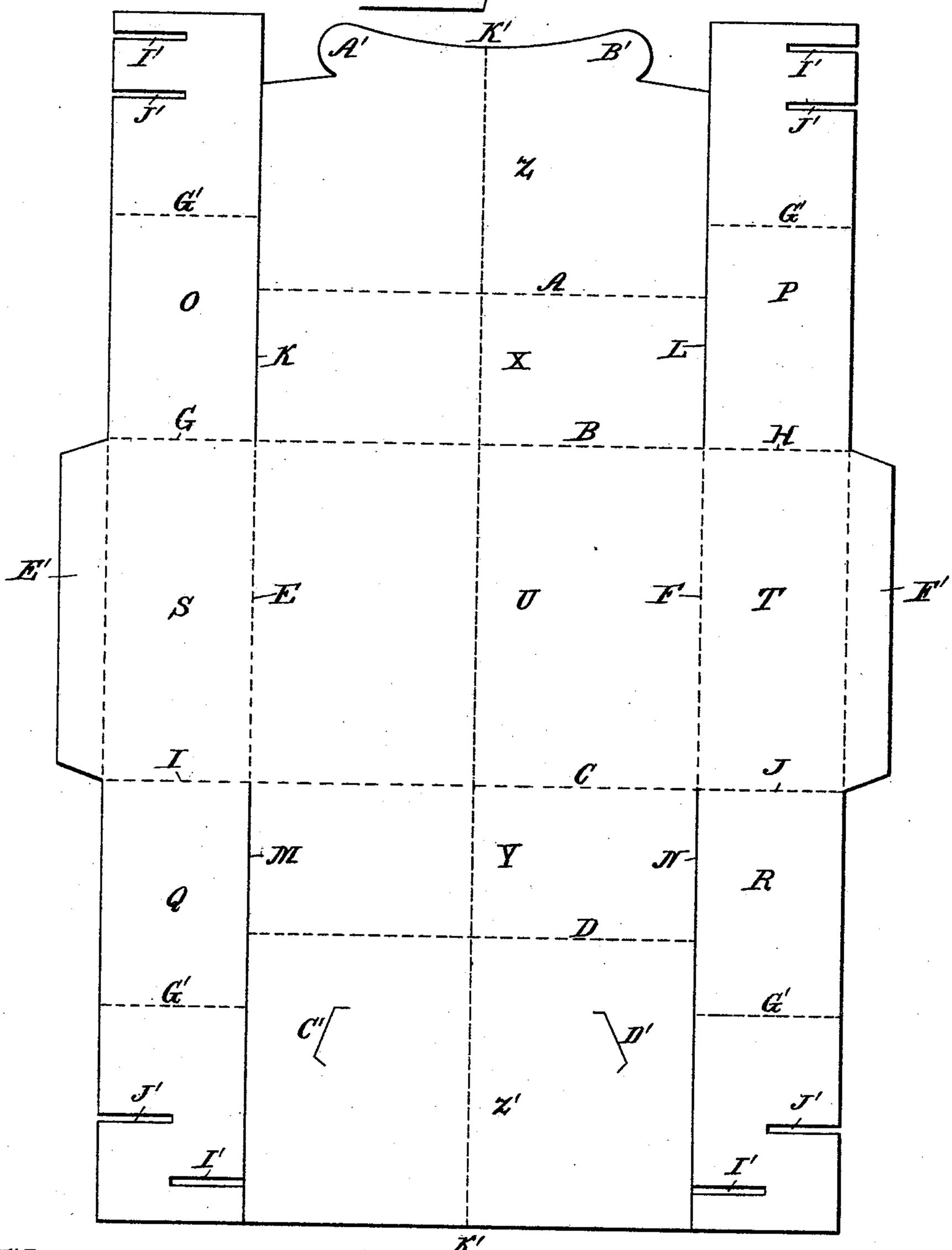

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Fig. 5.

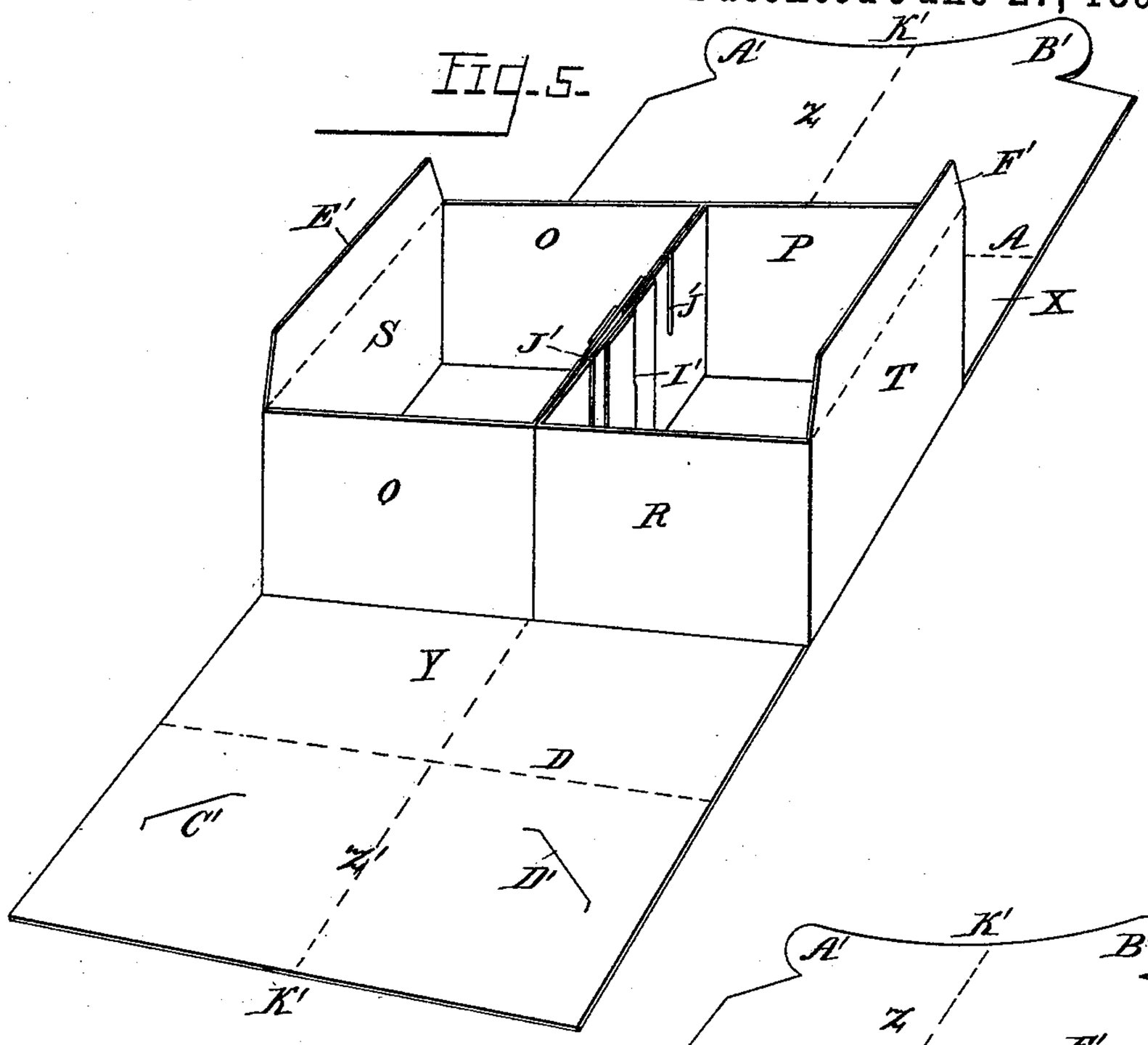

Fig. 6.

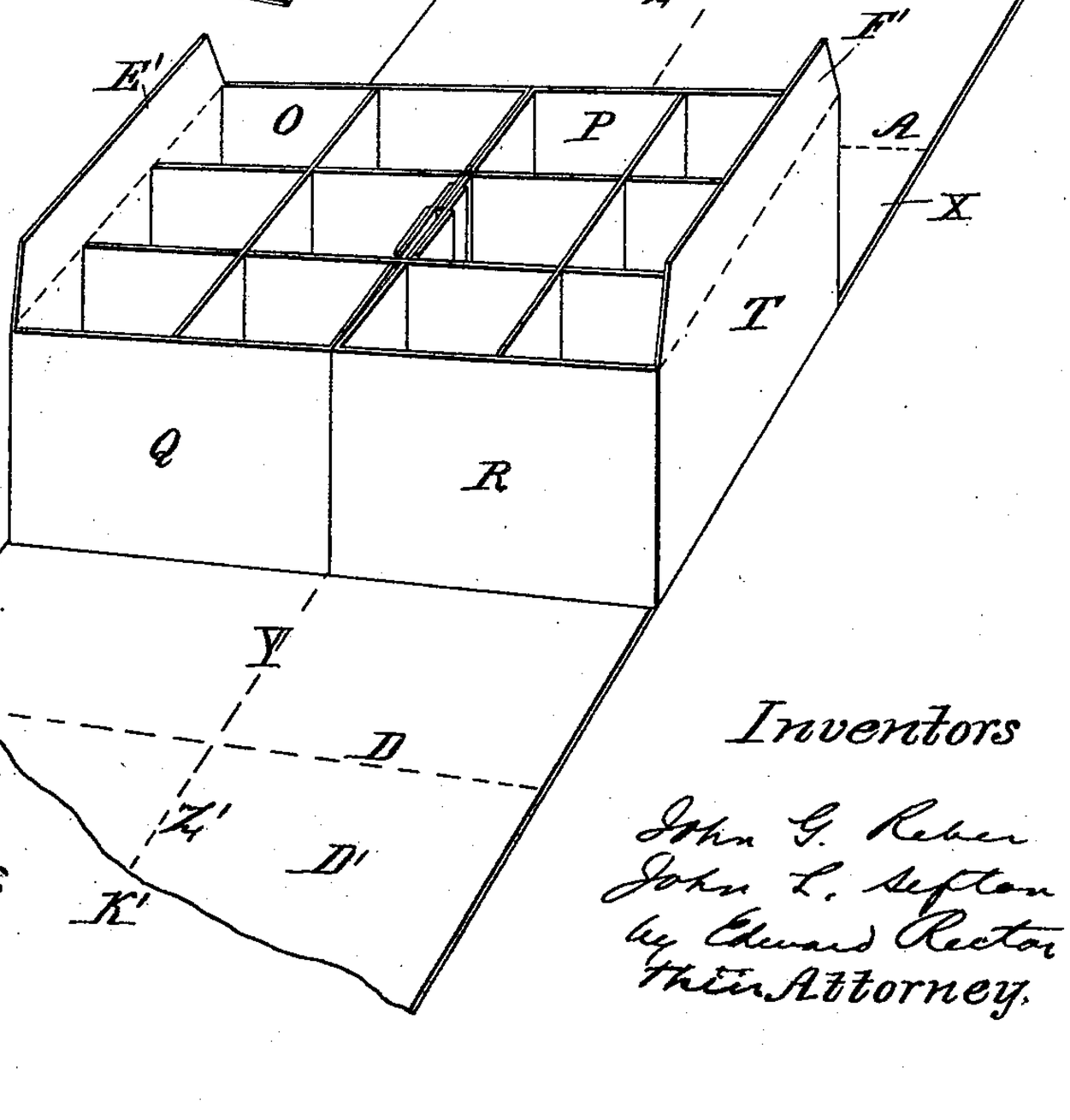

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Fig. 7.

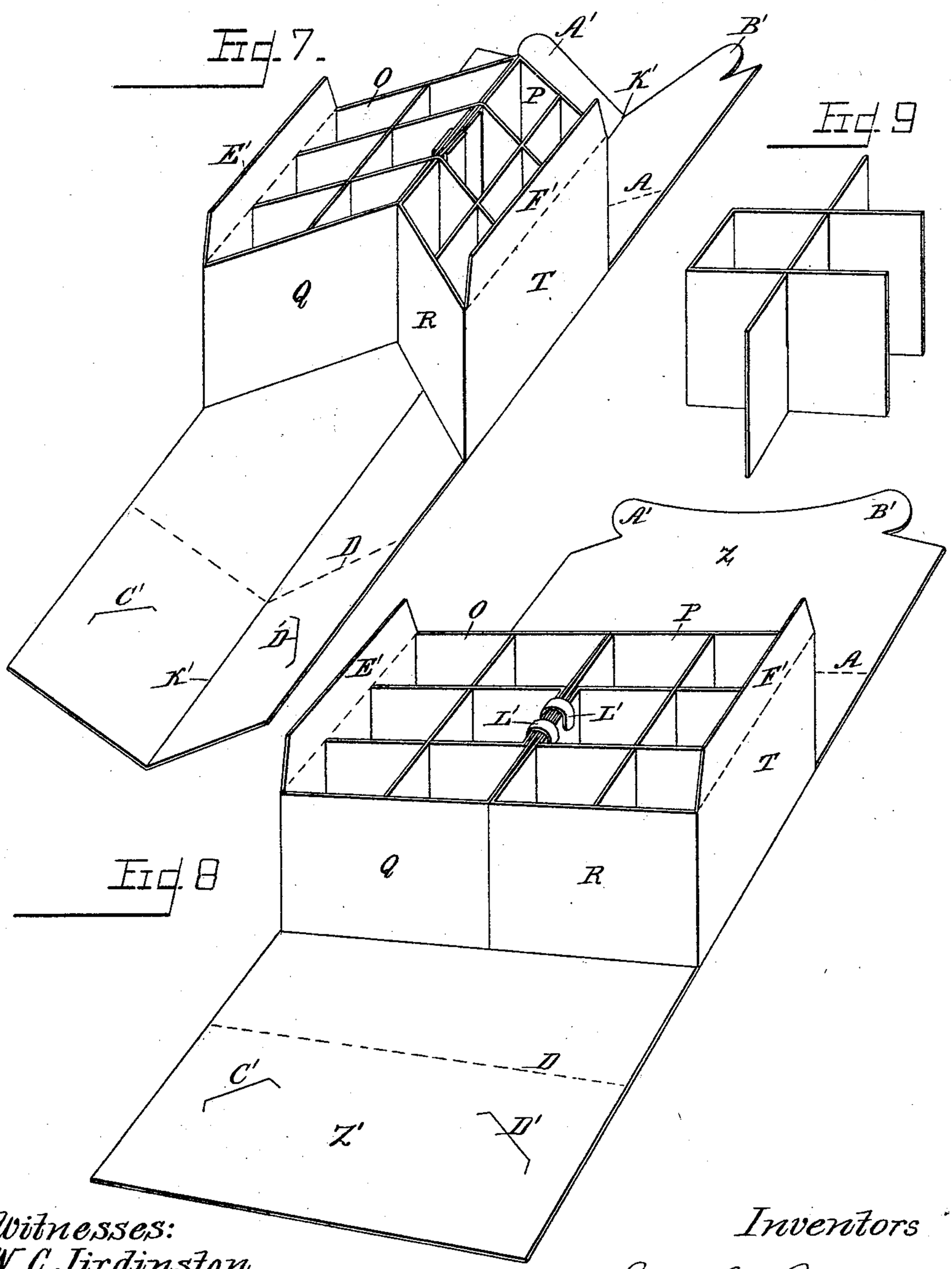

Fig. 9

Fig. 8

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Fig. 10.

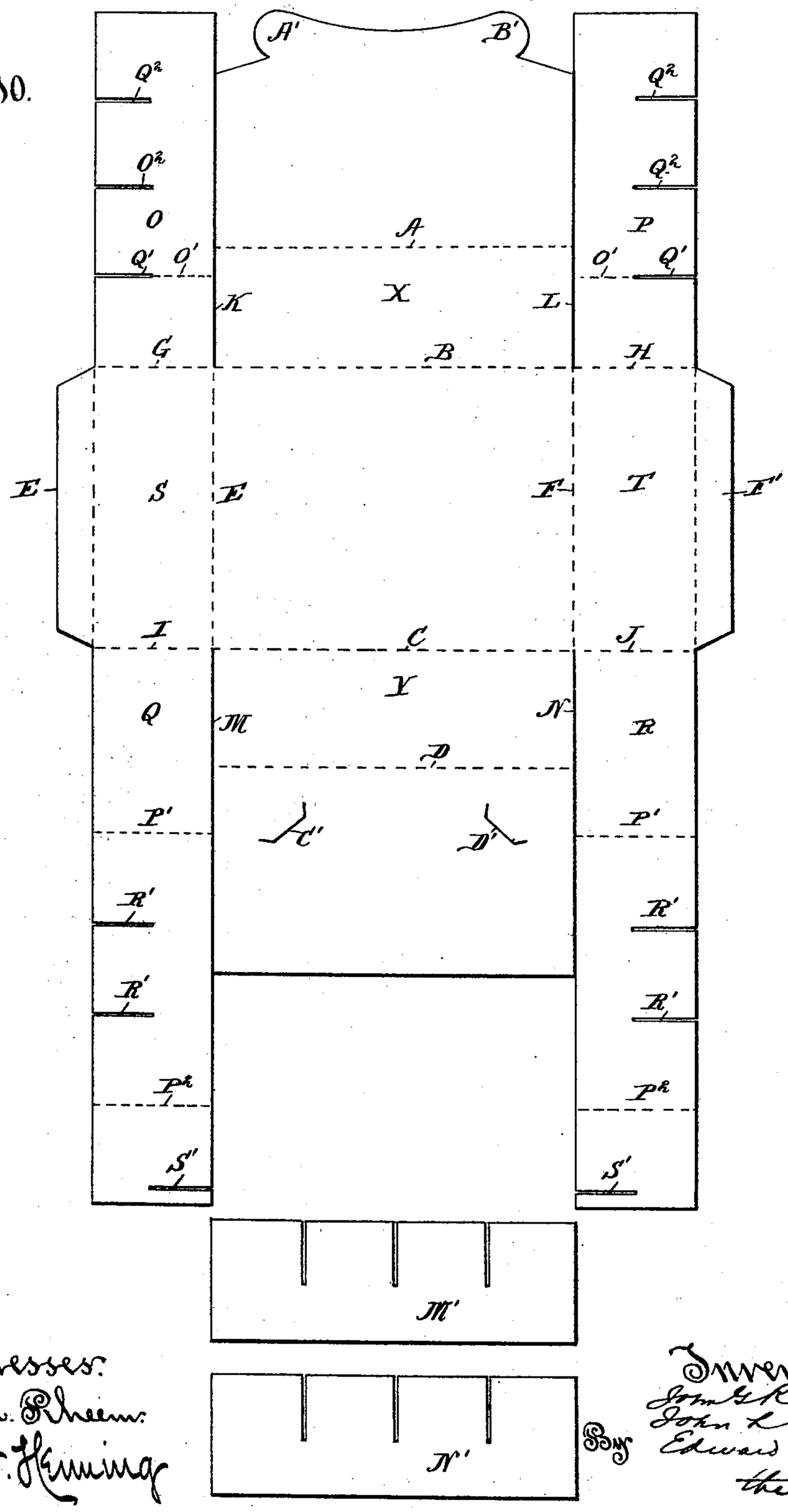

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Fig. 11.

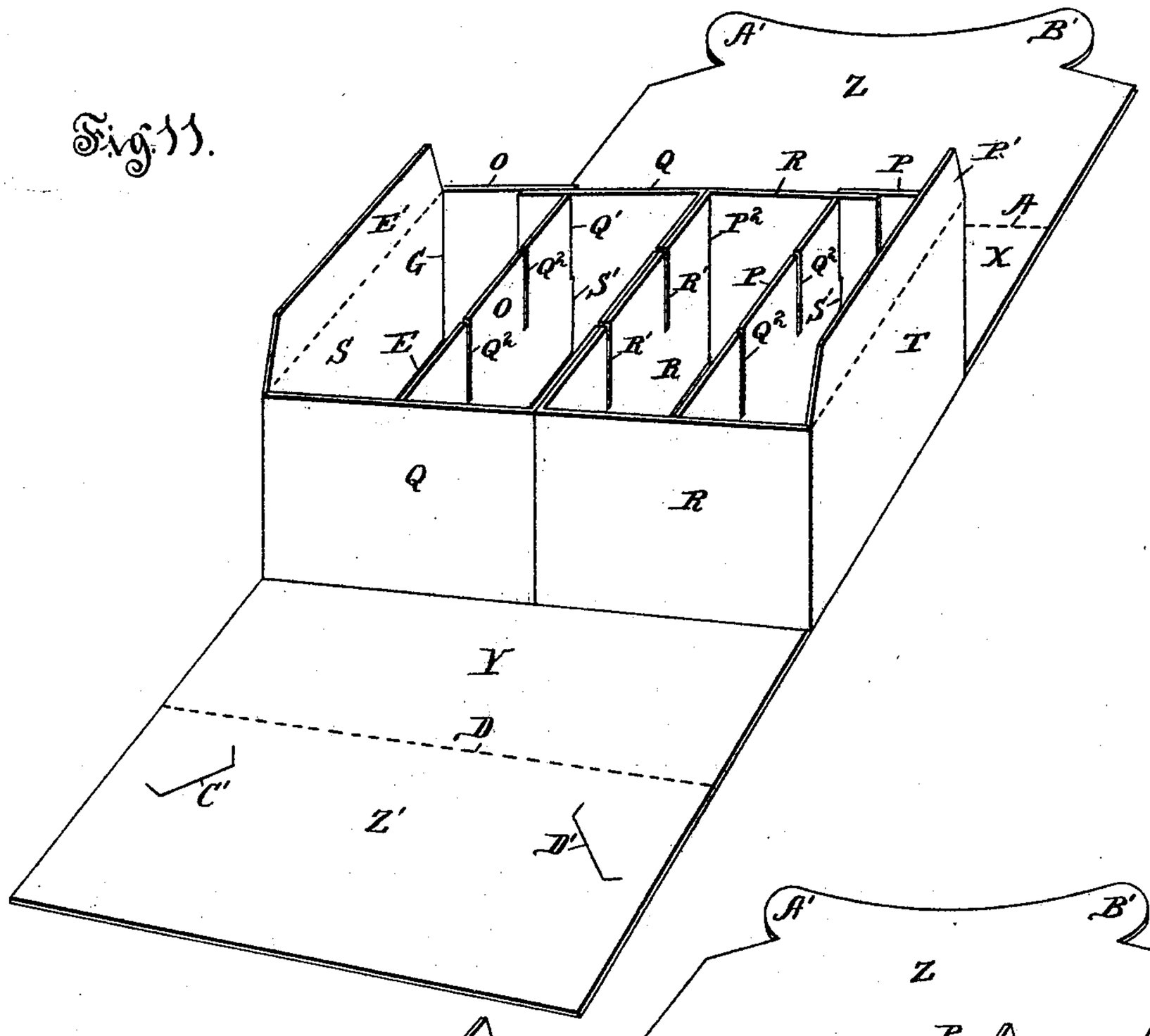
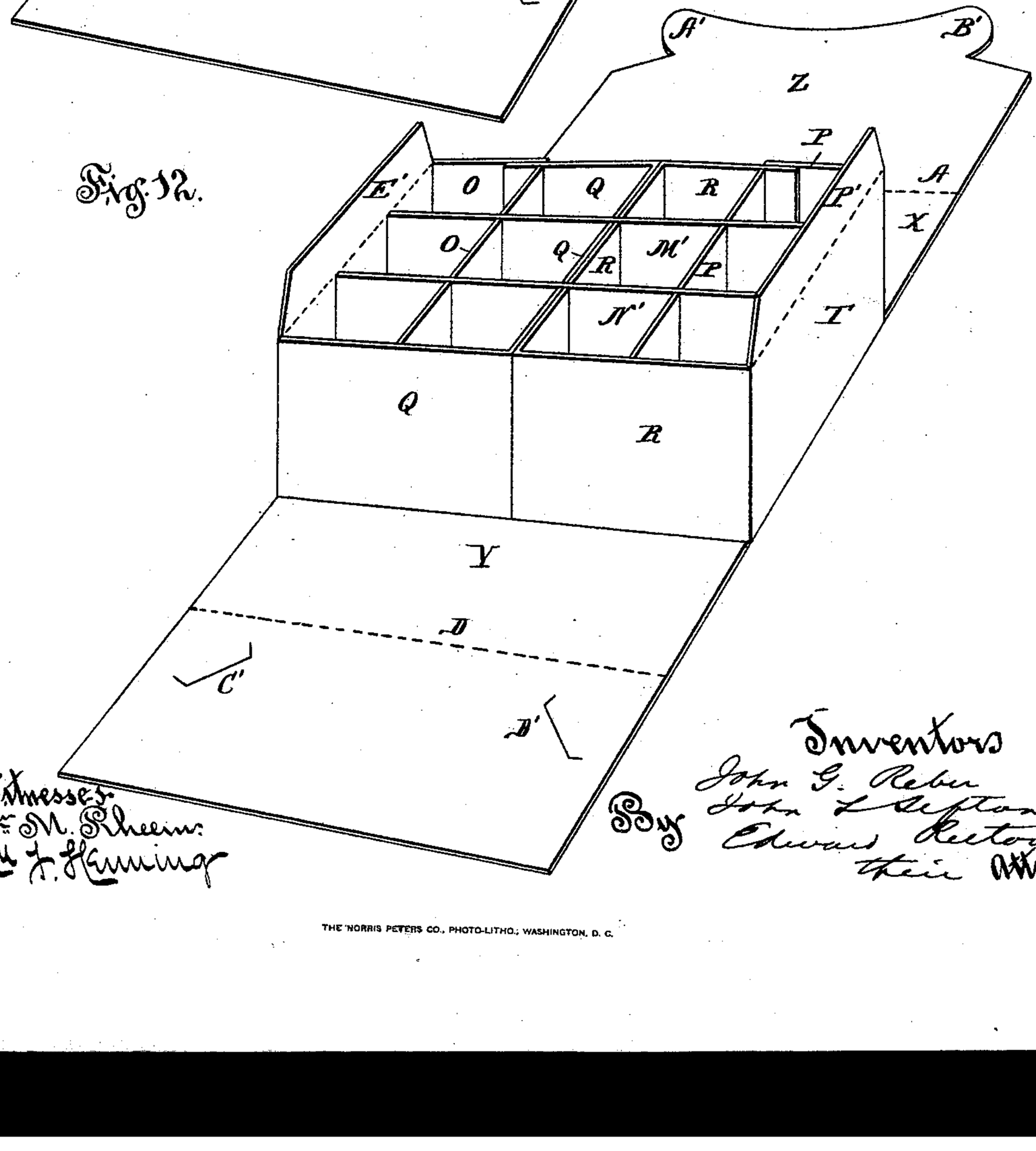


Fig. 12.



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Inventors
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By

UNITED STATES PATENT OFFICE.

JOHN G. REBER AND JOHN L. SEFTON, OF CHICAGO, ILLINOIS.

PAPER BOX.

SPECIFICATION forming part of Letters Patent No. 500,295, dated June 27, 1893.

Application filed April 15, 1892. Serial No. 429,347. (No model.)

To all whom it may concern:

Be it known that we, JOHN G. REBER and JOHN L. SEFTON, both citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Paper Boxes, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates particularly to paper boxes of novel construction, which are designed, with suitable partitions fitted into them, to form small egg cases, such as are used by retail grocers, and others who sell eggs in small quantities. The broader scope of our invention, however, is not restricted to the use of our novel boxes as egg cases, for the partitions which are to be fitted into them to form the separate cells or nests may be omitted, and the boxes used for any suitable purposes.

The novelty of our invention consists in the construction of the boxes themselves, and the combination of the separately formed partitions with them.

In the accompanying drawings, Figure 1 is a plan view of a blank, suitably creased and cut to be folded into one form of our new boxes; Fig. 2 a perspective view of a partly formed box, folded from the blank shown in Fig. 1; Fig. 3 a perspective view of a set of partitions adapted to be fitted into the box shown in Fig. 2, to form an egg case thereof; Fig. 4 a plan view of a blank similar to that shown in Fig. 1, but provided with an additional crease or line of fold, and several locking slits, for purposes to be explained; Fig. 5 a perspective view of a partly formed box, folded from the blank shown in Fig. 4; Fig. 6 a view corresponding to that in Fig. 5, with a set of partitions such as shown in Fig. 3, fitted into the box to form an egg case of it; Fig. 7 a perspective view of the box and blank shown in Fig. 6, partially folded into position for shipment; Fig. 8 a perspective view of a partly formed box, folded from a blank such as shown in Fig. 1, but having a different arrangement and connection of the partitions which are fitted into it; Fig. 9 a perspective view of one of the sets of partitions shown in Fig. 8; Fig. 10 a plan view of a blank creased and cut somewhat differently from those shown in Figs. 1 and 4; Fig. 11 a perspective view of a partly formed box folded from the blank shown in Fig. 10; Fig. 12 a corresponding view, with the two partition strips cut from the blank shown in Fig. 10 fitted into the box to form the separate egg cells.

The same letters of reference are used to indicate identical parts in all the figures.

The blank shown in Fig. 1 is creased, or adapted to be folded, along the dotted lines A, B, C, D, E, F, G, H, I, J and G′, and is cut or slit upon the lines K, L, M and N. It will be seen that the cuts K, M, and connecting crease E, and the cuts L, N, and connecting crease F, separate the blank into three longitudinal divisions or strips, of which the two side ones are in this instance narrower than the middle one. In folding up the box from the blank thus creased and cut, the long, narrow side strips or divisions are first bent upward to vertical position, hinging upon the creases E, F. Then the ends of the flaps O, P, Q, and R of these side strips are bent inwardly across the middle portion of the blank, hinging on the creases G′. Then these flaps are successively bent inwardly, at right angles, upon the creases G, H, I, and J. This causes the portions of said flaps which lie between the creases G′ and the creases G, H, I, and J, respectively, to extend across the middle portion of the blank, along the lines B, C, while the portions of the flaps between the creases G′ and the ends of the flaps will project longitudinally across the bottom portion, U, of the blank and over-lap each other, as shown in Fig. 2. These over-lapped ends of the flaps O, P, Q, and R will thus constitute a division wall extending across the body of the box, and separating it into two compartments. The ends of these flaps forming this division wall may be secured together in any desired manner.

In Fig. 1 we have shown a metal clamp H′ secured to the flap Q near its outer end, and adapted to be bent over the edges of the other flaps, as shown in Fig. 2. A double-compartment box is thus formed from a single blank, and may be used for any purpose where it is desired to separate the contents of the box into two parts.

Fig. 2 shows the box open and ready to be filled. It may be closed and its cover se-

cured in place in the following manner: The narrow side flaps E′, F′, with which the end walls of the box are preferably provided, are bent inward and downward to horizontal position. Then the ends of the middle portion of the blank, comprised between the ends of the blank and the lines B, C, respectively, are bent upward to horizontal position, hinging on the lines B, C, the portions X, Y, thus forming the outer side walls of the box, as the laterally extending portions of the flaps O, P, Q and R form its inner side walls. Then the end flaps Z, Z′, are bent downward over the top of the box, hinging on the lines A, D, to form its cover. These two flaps may be fastened together in any desired manner to secure the cover in place. In the drawings we have shown the flap Z provided with tongues A′, B′, adapted to be inserted in slits C′, D′, in the flap Z′, for this purpose.

To form an egg case of the box above described, a set of partitions such as shown in Fig. 3 is fitted into the box. In such case the middle division wall of the box will be provided with slits as indicated by the dotted lines in Fig. 2, and the set of partitions shown in Fig. 3 is provided with co-incident slits H^2. A set of partitions such as shown in Fig. 3 fitted into the box shown in Fig. 2 in this manner will form an egg case containing one dozen cells, and this is a convenient size for the use which is made of egg cases of this character. But it is evident that, by making the box larger or smaller, and fitting into it different numbers of partitions, the capacity of the case may be increased or diminished.

Where a box such as shown in Fig. 2 is used simply as a double-compartment box, and is not provided with any partitions forming an egg case of it, it is quite desirable, though not absolutely necessary, that the ends of the flaps which form the middle division wall of the box should be fastened together in some manner, to give stability to the box when it is opened and while it is being filled, but where a set of partitions such as shown in Fig. 3 is fitted into the box it is not at all necessary that the ends of the flaps forming said middle wall shall be fastened together other than by the partitions themselves, for it will be seen that the slits H^2 in the partitions, embracing the strips forming this wall, will prevent lateral displacement of the walls of the box, while the engagement of the slits in said wall with the cross-strips of the partitions will prevent longitudinal withdrawal or displacement of the ends of the flaps forming the division wall.

For the purpose of shipping the boxes or egg cases above described in compact form the partitions may be removed from the box and the latter unfolded into the form of the blank shown in Fig. 1, and then the side strips or divisions be folded over and pressed down flat upon the middle portion of the blank, hinging on the creases E, F. In this manner the blanks may be packed flat in a box of substantially the same width as the middle portion of the blank. The partitions shown in Fig. 3 may be readily pressed down flat and packed with the blanks.

In Figs. 4, 5, 6 and 7 we have shown a method of forming an egg case from a blank, box and set of partitions somewhat similar to those shown in Figs. 1, 2, and 3, but in this second construction the complete egg case is adapted to be folded flat for shipment without removing any of the partitions which form the cells or separate egg compartments. In this second construction, also, the ends of the flaps which constitute the middle division wall of the box are slitted and interlocked together, instead of being fastened with a metal clamp as in Fig. 2 or left disconnected.

The blank shown in Fig. 4 is substantially the same as that shown in Fig. 1, excepting that it is provided with a middle longitudinal crease or line of fold, K′—K′, and the ends of each of the flaps O, P, Q and R are provided with two slits I′ and J′, for a purpose to be explained.

The blank is folded in the manner heretofore described into substantially the same form as in Fig. 2. The slits I′ in the flaps P and R serve to lock the ends of said flaps together when they are overlapped, to form half of the middle division wall of the box, as seen in Fig. 5, and the slits I′ in the flaps O and Q serve to interlock the ends of those flaps in the same manner. The slits J′ in the flaps O and P coincide with each other, as seen in Fig. 5, as do also the slits J′ in the flaps Q and R, thus forming two slits through the middle wall of the box, corresponding to those shown in dotted lines in Fig. 2. Into the double compartment box thus formed, and shown in Fig. 5, is fitted a set of partitions such as shown in Fig. 3, thereby forming an open egg case such as shown in Fig. 6. This case may be closed, and the cover Z Z′ secured in place in the manner above described.

For the purpose of folding the open case shown in Fig. 6 into a flat form, to enable the cases to be compactly stored for shipment, and at the same time to obviate the necessity of removing the partitions prior to shipment and replacing them thereafter, we provide the blank with the middle longitudinal crease K K′. By pressing the middle portion or wall of the box toward the upper end of the blank, as shown in Fig. 7, the two halves of the blank may be bent upward, along the line of the crease K K′, as there shown, and be pressed tightly together, the partitions in the box collapsing and being compressed between the two halves of the blank. In this manner the complete egg case may be folded into substantially flat form without removing the partitions, and can be shipped in a package of little greater width than one-half of the blank from which the case is formed. When the egg cases are to be used it is only necessary to take them out of the package in which they have been shipped and unfold them to the

position shown in Fig. 6, which may be easily and quickly done, and the partitions are then in place and the cases ready to be used. This method of folding the complete egg cases into flat form is not peculiar to the cases shown in Figs. 4, 5, 6 and 7, but may be employed with other cases. For instance, by providing the blank shown in Fig. 1 with a middle longitudinal crease such as K K′, the egg case formed of the box in Fig. 1 and the partitions in Fig. 3 may be folded flat for shipment in the manner just described.

In Figs. 8 and 9 we have shown a different form of partition, fitted into a box substantially the same as that shown in Fig. 2, but connected to the middle wall of the box in a different manner. In Fig. 8 there are two sets of partitions, each constructed as shown in Fig. 9, and one fitted into each compartment of the box. A metal clamp L′ is passed through the overlapped ends of the strips P and R and through the portions of the one set of partitions which fit against said strips, and another metal clamp L′ is passed through the overlapped ends of the strips O and Q and the portion of the other set of partitions which fits against them. The upper ends of these two metal clamps are bent in opposite directions downward over the upper edges of all four of the flaps and the adjacent portions of the partitions, as seen in Fig. 8, thereby securing the two compartments of the box firmly together. Upon bending these two clamps upward, the two compartments of the box may be disconnected from each other, and they can then be pressed out flat longitudinally of the blank, and folded down upon it for shipment; but, if desired, the blank may be provided with a middle longitudinal crease, as in Fig. 4, in which event the case may be folded for shipment as indicated in Fig. 7 and heretofore described, without unfastening the clamps L′ L′ and disconnecting the two halves of the box.

In Figs. 10, 11 and 12, we have shown a method of forming an egg case containing one dozen cells, in which the box has three division walls or partitions formed of integral portions of the blank, instead of one wall as in the construction heretofore described, and in which the detached partitions consist simply of two cross-strips, which may be cut from the same blank as the body of the box, at the same operation, and without waste of material. The blank shown in Fig. 10 is creased upon the lines A, B, C, D, E, F, G, H, I and J, and cut upon the lines K, L, M, and N, as in the case of the blanks heretofore described. The blank is somewhat longer than the others, and from the lower end of its middle portion, at the time and by the one operation of creasing and cutting the blank, are cut the two detached partition strips M′ N′. This leaves the flaps Q R projecting some distance below the lower end of the middle portion of the blank, and they are of correspondingly greater length than those in the other figures, for a purpose to be described. The flaps O and P are creased on the lines O′, and the flaps Q and R on the lines P′ and P^2. The flaps O and P are each provided with a slit Q′ and two slits Q^2, extending inward from their outer edges, and the flaps Q and R are each provided with two slits R′ extending inward from their outer edges, and also each with a single slit S′ projecting outward from their inner edges near their lower ends.

In folding the blank shown in Fig. 10 into box form, the long narrow side portions or strips are bent upward to vertical position along the creases E F. Then the flap O is bent at right angles upon the crease G, and projected across the middle portion of the blank. Then it is bent at right angles again upon the crease O′, and the portion of the flap between its end and the crease O′ extended longitudinally across the bottom portion U of the blank parallel with the end wall S, and reaching to, or nearly to, the crease C. Then the flap Q is bent at right angles upon the crease I and extended to the right across the blank along the line of the crease C. Then it is bent at right angles again along the crease P′, and extended across the bottom portion U of the blank along the middle line of the latter. Then its extreme end is bent to the left at right angles, upon the crease P^2, and interlocked with the flap Q by means of its own slit S′ and the slit Q′ in said flap; all as seen in Fig. 11. This will form one-half of the box, and the end of the flap O will divide this one-half into two compartments. The flaps P and R are then folded in a similar manner to form the right-hand half of the box, the end of the flap P dividing this latter half of the box into two compartments. The portions of the flaps Q and R which extend longitudinally across the middle of the bottom portion U of the blank abut against each other and constitute the middle division wall of the box. There is thus produced a box divided into four narrow, longitudinally extending compartments. The slits Q^2 in the flaps O and P and the slits R′ in the flaps Q and R stand in transverse line with each other, as seen in Fig. 11, so that they are adapted to receive the two partition strips M′ and N′, these two strips being each provided with three slits co-incident with those in the three division walls of the box. By inserting these two strips M′ and N′ the complete egg case, containing one dozen cells, is formed. By providing the blank with a middle longitudinal crease K′ K′, the complete egg case, with its contained partitions, may be folded flat for shipment in the manner indicated in Fig. 7 and heretofore described.

So far as we are aware we are the first in the art to produce a double compartment closed box, or a box divided into two or more compartments, having its bottom, side walls, end walls, cover, and its partition or division wall all folded from a single blank, when said partition or division wall is formed of extensions of the end walls bent across the bottom

of the box parallel with said end walls; and we desire to claim the same as broadly as may be done, as well as the combination of such a box with separately-formed partitions fitted into it to constitute an egg-case.

Having thus fully described our invention, we claim—

1. The herein described blank for forming a closed box having two or more compartments, consisting of the bottom portion U, the end portions S T separated therefrom by the two parallel creases E F, the side walls X Y separated from the bottom U by the two parallel creases B C, the cover flaps Z Z′ separated from the portions X Y by the two parallel creases A D, and the flaps O P Q R separated from the parts X Y Z Z′ by the cuts K L M N, and from the end walls S T by the creases G H I J, said flaps being creased transversely and adapted to be folded across the bottom U to form the division wall or walls of the box, and the whole being adapted to be folded into box form in the manner described.

2. The herein described blank for forming a closed box having two compartments, consisting of the bottom portion U, the end portions S T separated therefrom by the creases E F, the outer side walls X Y separated from the bottom U by the creases B C, the cover flaps Z Z′ separated from the portions X Y by the creases A D, and the flaps O P Q R separated from the parts X Y Z Z′ by the cuts K L M N and from the end walls S T by the creases G H I J, and each provided with a transverse crease G′, said flaps being adapted to be bent at right angles across the middle portion of the blank along the creases B C and to have their outer ends bent upon the creases G′ and extended across the bottom portion U to form the middle division wall of the box, and the whole being adapted to be folded into box form in the manner set forth.

3. The herein described blank for forming a closed box having two or more compartments, consisting of the bottom portion U, the end walls S T separated therefrom by the creases E F, the flaps E′ F′ hinging upon the end walls S T, the side walls X Y separated from the bottom U by the creases B C, and the cover flaps Z Z′ separated from said side walls by the creases A D, and provided with co-operating tongues and slits, and the transversely creased flaps O P Q R separated from the portions X Y Z Z′ by the cuts K L M N and from the end walls S T by the creases G H I J, the whole blank being adapted to be folded into box form in the manner set forth.

4. The herein described blank for forming a closed box having two or more compartments, consisting of the bottom portion U, the end walls S T separated therefrom by the creases E F, the side walls X Y separated from the bottom U by the creases B C, and the cover flaps Z Z′ separated from the side walls X Y by the creases A, D, the transversely creased flaps O P Q R separated from the parts X Y Z Z′ by the cuts K L M N and from the end walls S T by the creases G H I J, the whole blank being adapted to be folded into box form in the manner set forth, and being provided also with a middle longitudinal crease K′ K′ adapting the completed box to be folded upon itself as set forth.

5. The herein described double-compartment closed box, composed of the bottom portion U, the end walls S T bent upward from said bottom portion along the lines E F, the side walls X Y bent upward from said bottom portion along the lines B C, the cover flaps Z Z′ hinging upon the side walls X Y along the lines A D, and the transversely-creased flaps O P Q R hinged upon the end walls S T and folded transversely across the blank along the lines B C and having their outer ends bent across the bottom portion U of the blank parallel with the end walls S T to form the division wall of the box, substantially as set forth.

6. The herein-described double-compartment closed box, composed of the bottom portion U, the side and end walls X Y S T bent upward from said bottom portion along the lines B C E F, the inturned flaps E′ F′ hinged upon the end walls S T, the cover flaps Z Z′ hinged upon the side walls X Y, the flaps O P Q R bent transversely across the blank within the side walls X Y and having their outer ends bent upon the creases G′ and extended across the bottom portion U parallel with the walls S T and secured together to form the middle division wall of the box.

7. The herein described blank for forming a closed box having two or more compartments, consisting of the bottom portion U, the end portions S T separated therefrom by the two parallel creases E F, the side walls X Y separated from the bottom U by the two parallel creases B C, a cover flap, as Z, separated by a crease, as A, from one of the side walls X Y and adapted to hinge upon said wall along the line of said crease, and the flaps O P Q R separated from the side walls X Y by the cuts K L M N and from the end walls S T by the creases G H I J, said flaps being creased transversely and adapted to be folded across the bottom U to form the division wall or walls of the box, and the whole being adapted to be folded into box form in the manner described.

8. The herein described double-compartment closed box, formed of the bottom portion U, the end walls S T bent upward therefrom along the lines E F, the side walls X Y bent upward from said bottom portion along the lines B C, a cover flap, as Z, hinging upon one of the side walls X Y, and the flaps O P Q R hinged upon the end walls S T and folded transversely across the blank along the lines B C and having their outer ends bent across the bottom portion U of the blank parallel with the end walls S T to form the division wall of the box, substantially as set forth.

9. The herein described egg-case: composed of a double-compartment closed box having its bottom, side walls, end walls, cover, and

its partition or division wall all folded from a single blank, said division wall being composed of extensions of the end walls bent across the bottom of the box parallel with said end walls, in combination with a set of separately formed partitions fitted into the box and sub-dividing its compartments into egg-cells, substantially as set forth.

10. The herein described egg-case: composed of a double-compartment closed box having its bottom, side walls, end walls, cover, and its partition or division wall all folded from a single blank, said division wall being formed of extensions of the end walls bent across the bottom of the box parallel with said end walls, and being provided with vertical slits, in combination with a set of separately formed partitions fitted into the box across said division wall and provided with slits co-incident and co-operating with the slits in said division wall, substantially as set forth.

11. The herein described egg-case: composed of a double-compartment closed box having its bottom, side walls, end walls, top, and its partition or division wall all folded from a single blank, and having the ends of the flaps which form its division wall slitted and interlocked, and having said wall also slitted to receive independent partitions, in combination with such separately formed partitions fitted into the box across its division wall and provided with slits coincident with the slits in said wall, substantially as set forth.

12. The herein described egg-case: composed of a double-compartment closed box having its bottom, side walls, end walls, top, and partition or division wall all folded from a single blank, said blank being also provided with a middle longitudinal crease or line of fold, adapting the box or completed egg-case to be folded upon itself in the manner set forth, in combination with separately formed partitions fitted into the box and subdividing its compartments into egg-cells.

13. The herein-described egg-case: consisting of a double-compartment closed box folded from a single blank and composed of the bottom portion U, the side walls X Y and end walls S T bent upwardly along the lines B C E F, the cover flaps Z Z′ hinging upon the side walls X Y, the flaps O P Q R hinged upon the end walls S T and bent transversely across the box within the side walls X Y and having their outer ends extended across the bottom of the box parallel with the end walls, to form its division wall or walls, in combination with the separately formed partitions fitted into the box and connected with its division wall or walls to subdivide it into egg-cells, substantially as set forth.

14. The herein described egg-case: consisting of a double-compartment closed box folded from a single blank and composed of the bottom U, side walls X Y and end walls S T bent upward therefrom along the lines B C E F, the flaps E′ F′ hinged upon the end walls S T and the cover flaps Z Z′ hinged upon the side walls X Y and provided with co-operating tongues and slits, the flaps O P Q R hinged upon the end walls S T and bent across the box within the side walls X Y and having their outer ends extended across the bottom U parallel with the end walls and secured together to form the middle division wall of the box, in combination with the separately formed partitions fitted into the box across said division wall and subdividing its compartments into egg-cells, substantially as set forth.

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