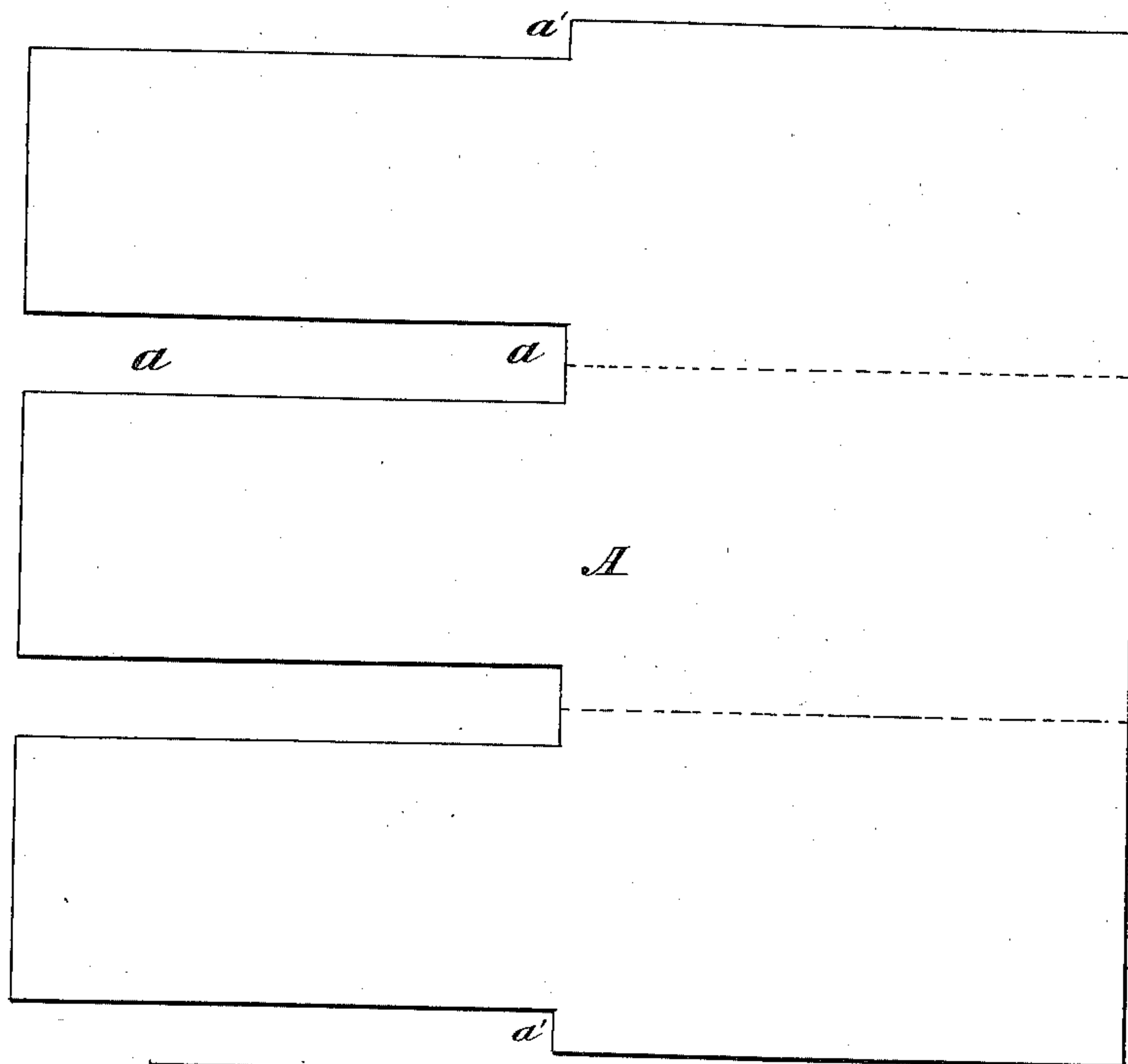


M. F. WILSON.  
Mode of Making Paper-Boxes.

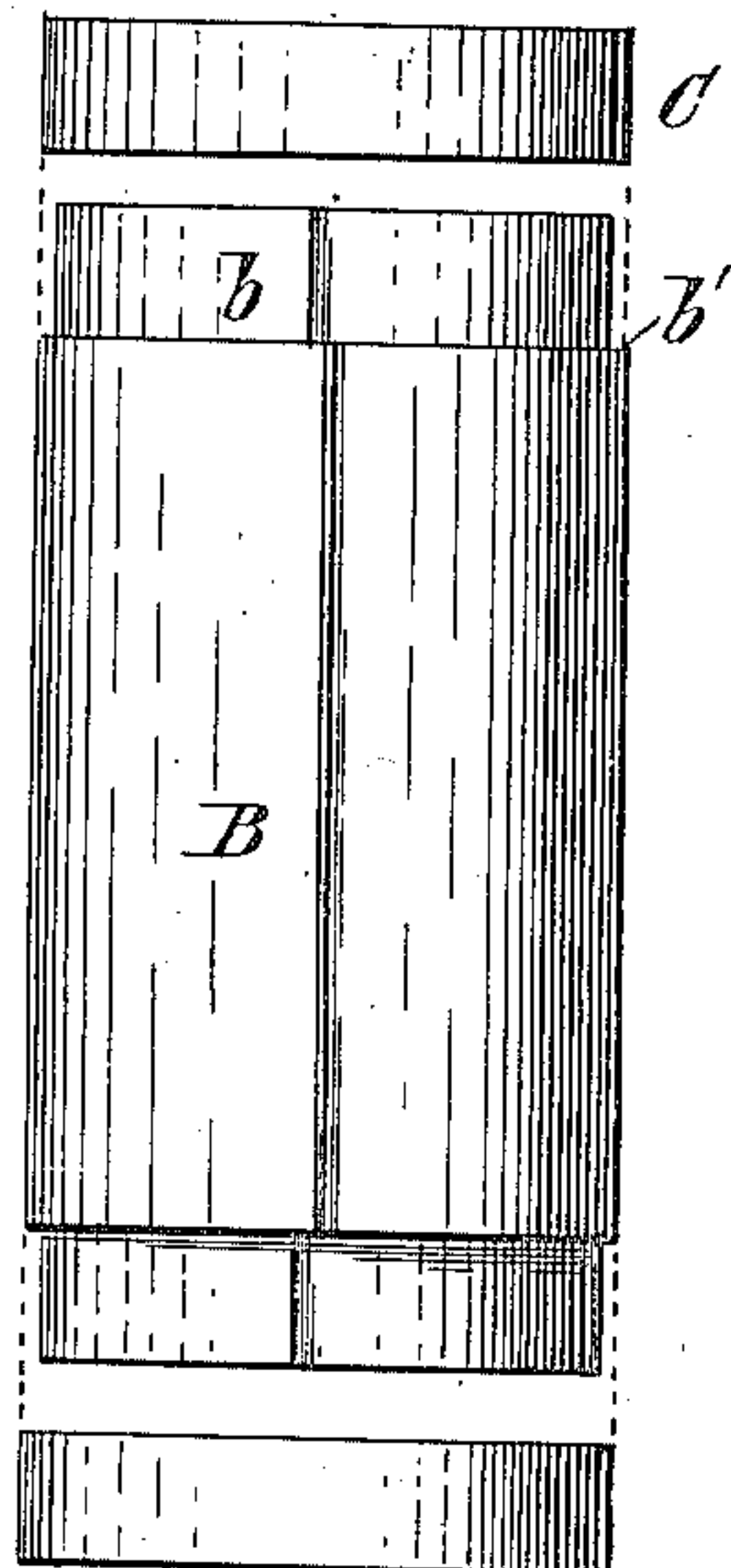
No. 227,143.

Patented May 4, 1880.

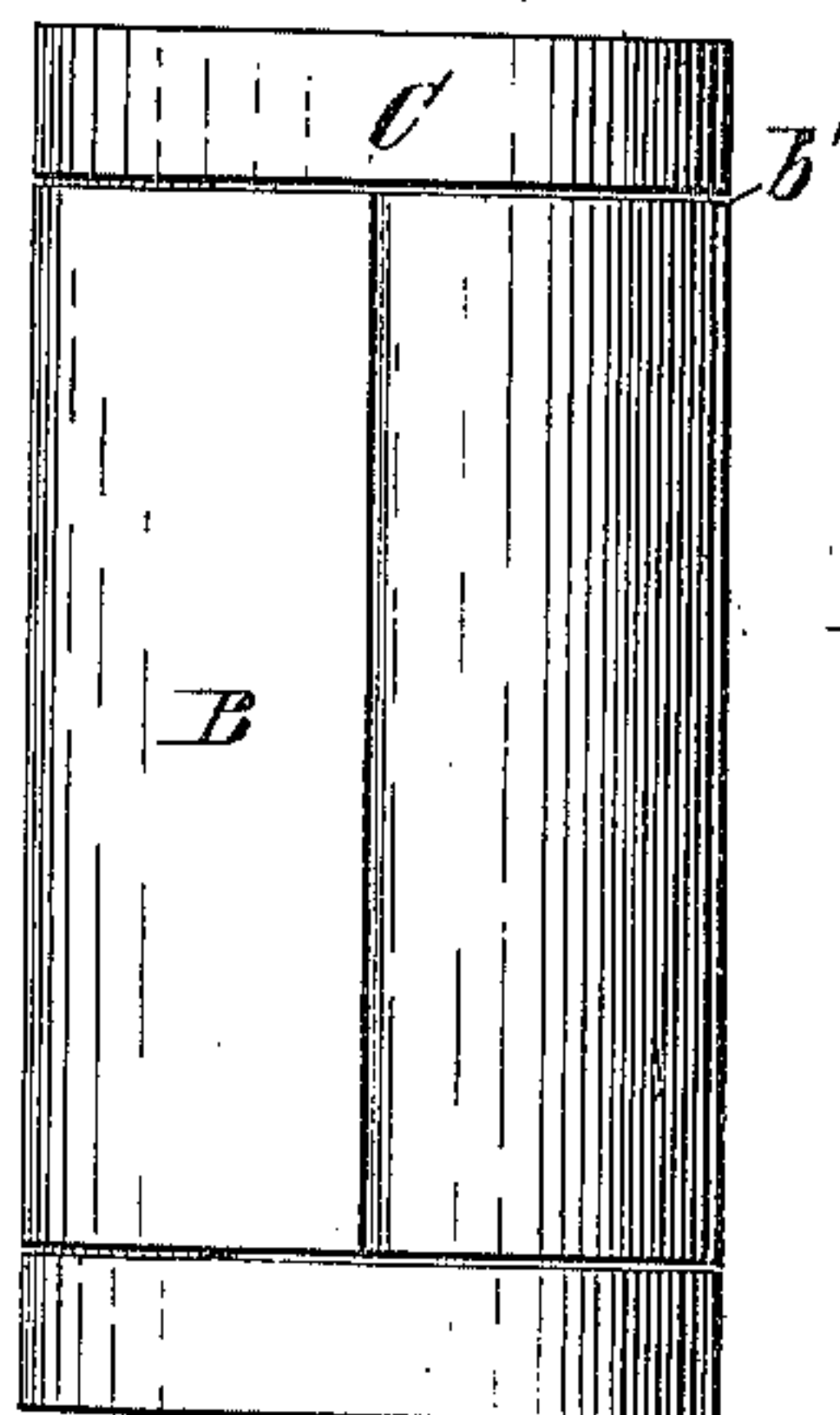
*Fig 1*



*Fig 3*



*Fig 2*



Witnesses

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# UNITED STATES PATENT OFFICE.

MERRICK F. WILSON, OF CHICAGO, ASSIGNOR OF ONE-HALF OF HIS RIGHT  
TO CHARLES R. STEELE AND V. CLARENCE PRICE, OF WAUKEGAN, ILL.

## MODE OF MAKING PAPER BOXES.

SPECIFICATION forming part of Letters Patent No. 227,143, dated May 4, 1880.

Application filed December 15, 1879.

*To all whom it may concern:*

Be it known that I, MERRICK F. WILSON, of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Mode of Making Paper Boxes, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan view of a paper blank cut previous to rolling for the construction of a series of double-necked boxes; Fig. 2, a side elevation of a completed box, and Fig. 3 a similar view of the same with the covers removed and slightly separated from the ends.

The object of my invention is to simplify and cheapen the manufacture of what are known as "double-necked paper boxes." These boxes have usually been made heretofore from two separate pieces, the first of which is formed into a cylinder, and then the second wound around it and fastened, the latter strip being narrower than the former.

My invention consists in a process of making necked paper boxes, consisting in first cutting a blank with rabbets and recesses at one side, arranged in a special manner, then winding the said blank upon a mandrel to form a tube of two or more thicknesses with alternate portions of less thickness, and then severing the tube along the central line of the thinner portions.

It also consists in a blank cut in a peculiar form, with rabbets and recesses of special form and arrangement extending part way across it, all of which will be hereinafter fully and specifically described, and pointed out more definitely in the claims.

It also consists in the blank itself, of peculiar form, which will be hereinafter fully described.

In the drawings, A represents a blank of box-board, which is cut of peculiar form. On one side are recesses *a*, cut out about half-way across the blank and at equal distances apart. These recesses are of a width equal to twice the length of one of the necks which it is desired to form upon the box-body when finished. On the same side of the blank, and at the ends thereof, strips are cut away to form a rabbet,

*a'*, extending inward as far as the recesses *a*, and one-half the width of the latter—that is, of a width equal to that of one of the necks on the box-body when completed. This blank is cut from the board by a single die at one drop, the cutters of the die being constructed and arranged to cut out the spaces described.

The blank thus formed is then wound upon a mandrel in a machine like that described in Letters Patent No. 217,035, granted to me July 1, 1879, the mandrel being of such size that the entire unrecessed and unrabbeted portion of the blank will first be wound to form a tube of one thickness, and then the narrow strips between the recesses and between a recess and a rabbet will be wound around the tube first formed to form a second thickness. The ends of the blank thus wound on the mandrel are then glued, when it is evident that a paper tube will be formed of double thickness, with portions of but a single thickness at regular distances from each other, and of a width equal to the width of the cut-away portions in the blank.

The movable cutters described in my prior patent above mentioned are arranged so that when moved up to the mandrel they will sever the paper tube along the central line of the single thickness, or, in other words, along the dotted lines in Fig. 1 of the drawings.

It is obvious that the tube will thus be cut into a series of shorter tubes, like that shown in Fig. 3 of the drawings, consisting of a body, B, of double thickness, provided with a short neck, *b*, at each end, of a single thickness, which is formed by the interior roll of paper.

The ends of the outer thickness form the usual shoulders *b'* for the covers C, one of which is suitably fastened to the body of the box to make the permanent bottom, and the box is then completed, as shown in Fig. 2 of the drawings.

After the tube is cut on the mandrel, so as to form separate box-bodies, these latter are slipped off from the end of the mandrel, as explained in my aforesaid patent, and the covers fitted to the ends thereof.

By this process this particular kind of paper box may be manufactured very rapidly and cheaply.



The blank may be very large, so as to make a number of boxes when completed.

In the above description I have specified a box of only two thicknesses, with necks of a single thickness. It is obvious, however, that by cutting the blank with special reference to the construction of a box with a different number of thicknesses, it may be formed with a body of three or even more thicknesses, and necks of a single thickness, or double, or even more, if desired. These modifications can be effected by simply changing the relative widths—that is to say, the dimensions in the direction of the recessed and dotted lines in Fig. 1—of the entire and recessed portions of the blank, so as to give as many thicknesses as desired to both the body and the necks of the box. It is also obvious that a slight change in the cutting of the blank and in the arrangement of the cutters for severing the tube on the mandrel will make a box with but one neck. One way of accomplishing this would be to adjust the cutters so as to sever the tube in line with one side of the recesses, instead of on the dotted lines shown in Fig. 1, in which case the recesses should be made of a width equal to the length of a single neck, and one of the

end rabbets dispensed with. These modifications will be readily understood, and can be made by any one familiar with the art without more elaborate description.

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

1. The herein-described process of making necked paper boxes, the same consisting in first cutting a blank recessed and rabbeted at one side, as specified, then winding the same upon a mandrel to form a tube of double or more thicknesses with alternate portions of less thickness, and then severing said tube along the central line of the thinner portions, substantially as described.

2. The blank A, provided on one side with narrow recesses *a*, extending about half-way across the blank, and with a rabbet, *a'*, at each end thereof half the width of one of the recesses and of the same depth, substantially as and for the purpose set forth.

MERRICK F. WILSON.

Witnesses:

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