

E. B. & L. W. Beecher.

Match Box.

No 87,236.

Patented Feb 23, 1869.

Fig. 2.

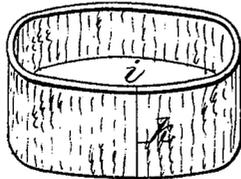


Fig. 1.

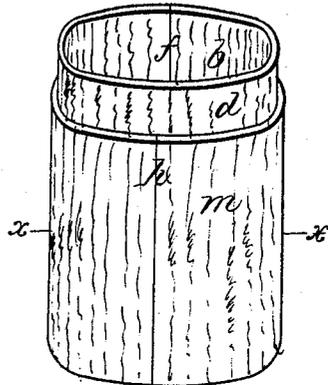


Fig. 5.

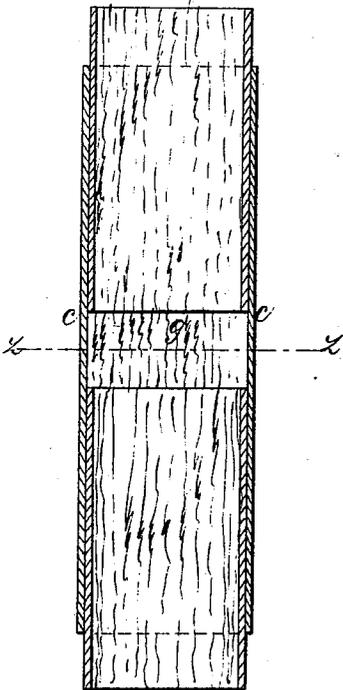


Fig. 3.

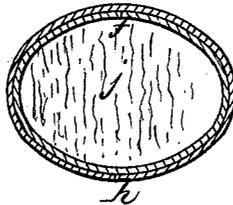


Fig. 6.

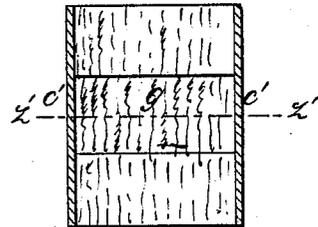
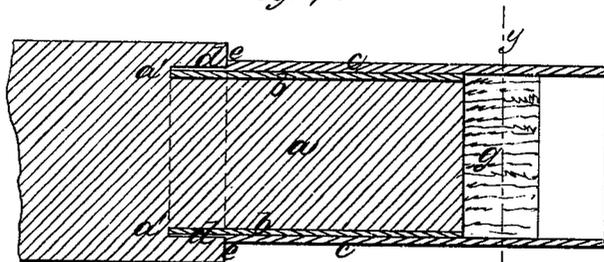


Fig. 4.



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Fig. 2

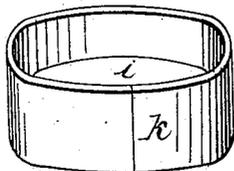


Fig. 1.

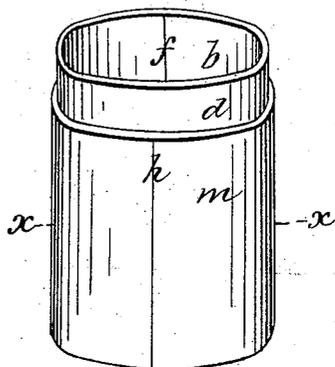


Fig. 5.

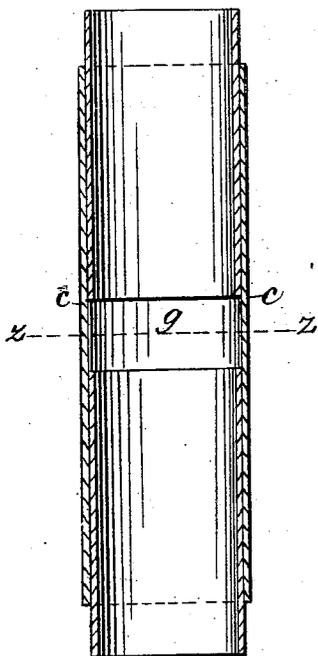


Fig. 3.

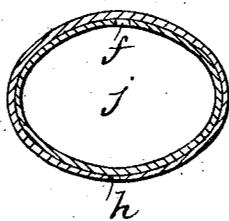


Fig. 6.

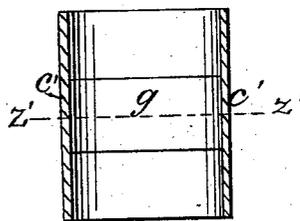
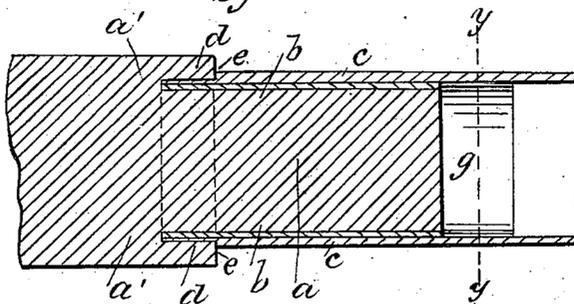


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Letters Patent No. 87,236, dated February 23, 1869.

IMPROVEMENT IN MATCH-BOXES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, EBENEZER B. BEECHER and LUCIUS WHEELER BEECHER, of the city and county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in the Manufacture of Wooden Boxes for Matches and similar purposes; and we do hereby declare that the following is a full and accurate description thereof, reference being had to the accompanying drawings.

Our invention relates to wooden boxes which have wooden sides of thin leaves of wood, secured to a wooden bottom, the covers also being made in a similar manner.

Such boxes have heretofore been made with the grain of the wood of the sides and rim of the cover running around the box circumferentially, and the grain of the wood of the top and bottom-pieces running transversely across the box.

The sides of such boxes are liable to split transversely, and separate into two or more parts, and the rims of the covers are also liable to split off from the top pieces.

The first part of our invention consists in making the top and bottom pieces, the sides, and the rim of the cover, with the grain of the wood running in the direction of the length of the box, that is, longitudinally, instead of circumferentially.

By this mode of construction, a box is obtained that possesses the same kind of security against splitting in two parts, transversely, as boxes made from the solid wood, and much less wood is required to make them.

We make our improved boxes either round or oval, of various styles.

We use, for the tops and bottoms, pieces sawed from sticks of wood that have been cut with the grain, or nearly so, and turned or otherwise shaped in the form of a cylinder, round or oval; and for the sides and rim of the covers, thin leaves or veneers of wood, cut circumferentially around a log. Such veneers are tough, and are not apt to split, and when applied with the grain running longitudinally with the box, bend readily, to take the required form of the box.

Our invention further consists in a slide-box, for matches or other similar purposes, the box being made as above described, but instead of a rim-cover, the cover has attached to it a scoop or concave, conforming to the shape of the box, whether round or oval, in which the matches lie in the box, and which permits the cover to be drawn away from the box sufficiently to remove the matches without separating the cover entirely from the box, the concave or scoop remaining partially within the box, unless entirely withdrawn, when, there being no end-piece to the scoop, the matches may be either left in the box, or taken out in the sliding scoop.

Our invention further consists in a mode of making such boxes, whereby the glue-joint between the sides and bottom-piece, or between the top and rim, is pre-

vented from being unsightly by reason of exudation of the glue outside of the joint, and a good finish cheaply given to the top and bottom of the box when made of end-wood, with the grain of the sides longitudinal with the boxes, as above described.

This mode involves making at one operation a box and cover, or two boxes or two covers.

It consists in making the bottom or end-piece twice as thick as required for the bottom of one box, and then gluing the veneer around it, suffering it to project over both sides of the end-piece, and then, when dry, sawing transversely through the sides and bottom-piece, as hereinafter shown.

But more particularly to describe our invention, we will refer to the accompanying drawings, of which—

Figure 1 is a perspective view of an oval match-box.

Figure 2, cover of the same.

Figure 3, section through red lines *x x*, fig. 1.

Figure 4, a section showing our improved mode of manufacture.

Figures 5 and 6, sections further illustrating our improved mode of manufacture.

Figure 7, perspective view of the slide-box.

Figure 8, an end view of the same.

Figure 9, section, showing our improved mode of manufacture applied to the slide-box.

In making round or oval boxes with rim-covers, such as shown in figs. 1 and 2, we use a mould, or former, *a*, (fig. 4,) having an annular recess, *a'*, to determine the projection of the inside piece *b*, which forms the neck *d*, from the outside piece *c* and shoulder *e* of the box, to receive the cover.

The inside piece *b* is first wrapped around the former *a*, and pushed into the recess *a'*, the grain of the wood being in the direction of the length of the box, and the piece extending to the end of the former, the joints abutting, as shown at *f*, figs. 1 and 3.

The outside piece *c* is then wrapped around the inside piece, and the circular or oval piece of end-wood, *g*, which is to contribute the top and bottom-piece of the finished box, introduced therein, as shown in fig. 4, the three pieces, *b*, *c*, and *g*, being secured together by hot glue, or suitable cement.

The grain of the outside piece, *c*, also runs with the length of the box, and the joints abut, as shown at *h*, figs. 1 and 3.

When the glue has set sufficiently, a fine saw is run transversely through the parts *b*, *c*, and *g*, in direction as shown by red line *y y*, fig. 4, which operation converts these parts into a finished box and cover, as shown in figs. 1 and 2, the piece *g* having been divided into the top-piece *i* of the cover, and the bottom-piece *j* of the box, and the outside pieces *c* also divided, by the same operation, into the cover-rim *K*, and the outside, *m*, of the box, which also contains the inside piece *b*, with the neck *d* and shoulder *e*.

It will be observed, that if the operations above described, are carried on in a workmanlike manner, the cover will always fit the neck of the box.

The piece *g* should be of end-wood, with the grain running in the direction of the length of the box.

Fig. 5 shows a modification of this mode of manufacture, by which two boxes are produced at one operation, by sawing through the outside piece *c* and piece *g*, in the direction of the red line *z z*, and fig. 6 shows another modification, in which two covers are produced at once, by sawing through the outside or rim-piece *c* and the piece *g*, in the direction of the red line *z' z'*.

The advantage of our improved mode of manufacture is threefold: By using the grain of the wood lengthwise, we give the box strength, and at the same time are able to make a good finish at top and bottom, by simply sawing across, the latter operation also doubling the facility of manufacture, by enabling the workman to make two boxes or two covers, or a box and cover at one operation.

The slide-box and its mode of manufacture are shown at figs. 7, 8, and 9.

The box is composed of a side-piece of veneer, *u*, with the grain lengthwise of the box, and a bottom-piece, *p*, of end-wood, the side-piece having a lap-joint, *q*.

The slide is composed of a concave, or scoop, *r*, of veneer, an end, or top-piece, *s*, and a rim, *t*.

All the pieces composing the slide have the grain running lengthwise of the box, and the pieces of the box and the slide, respectively, are secured by glue, or other suitable cement.

The slide and box are made at one operation, as shown in fig. 9, by gluing one end of the piece *u*, which is to form the concave, to the piece *w*, from which the top and bottom are to be made, and then wrapping around them the piece *w'*, using the former, *w'*, as a mould.

The pieces *u*, *w*, and *w'*, having been glued, or cemented together, and the glue set, they are separated into a box and slide, by running a fine saw through them in the direction of the red line **.

It will be obvious that this mode of manufacture may be modified, so as to make either two boxes with the lap-joint, or two slides, having a scoop, end-piece, and rim, at one operation, by making the piece for the ends twice as thick, and the pieces for the sides, or scoops, or rim, twice as long as required for one, and then sawing through in the middle, as in the modification of the mode of construction of the rim-cover box, shown in figs. 5 and 6.

We claim as of our invention and improvement, in the manufacture of wooden boxes for matches, and other similar uses, which have sides made of veneers, or thin leaves of wood—

1. A cylindrical, or oval box, with rim-cover, in which the grain of the veneers composing the sides, and the grain of the pieces composing the top and bottom, runs in the direction of the length of the box, substantially as described, whereby the box is protected from splitting transversely, and has the capacity of having a good finish imparted to the ends, by the simple operation of sawing, substantially as set forth.

2. A cylindrical, or oval slide-box, with a slide or scoop, constructed in the manner described, all the parts having the grain of the wood lengthwise with the box, substantially as and for the purposes hereinbefore set forth.

3. The method, herein described, of making a box and cover, or two boxes or two covers, with a good and cheap finish at the ends, at one operation, by making the sides and end-pieces of wood, with the grain running lengthwise of the box, the side or rim-pieces twice as long, and the end-pieces twice as thick as required for one part, and then, when the glue or cement that unites them is set, sawing them apart, substantially as hereinbefore described.

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