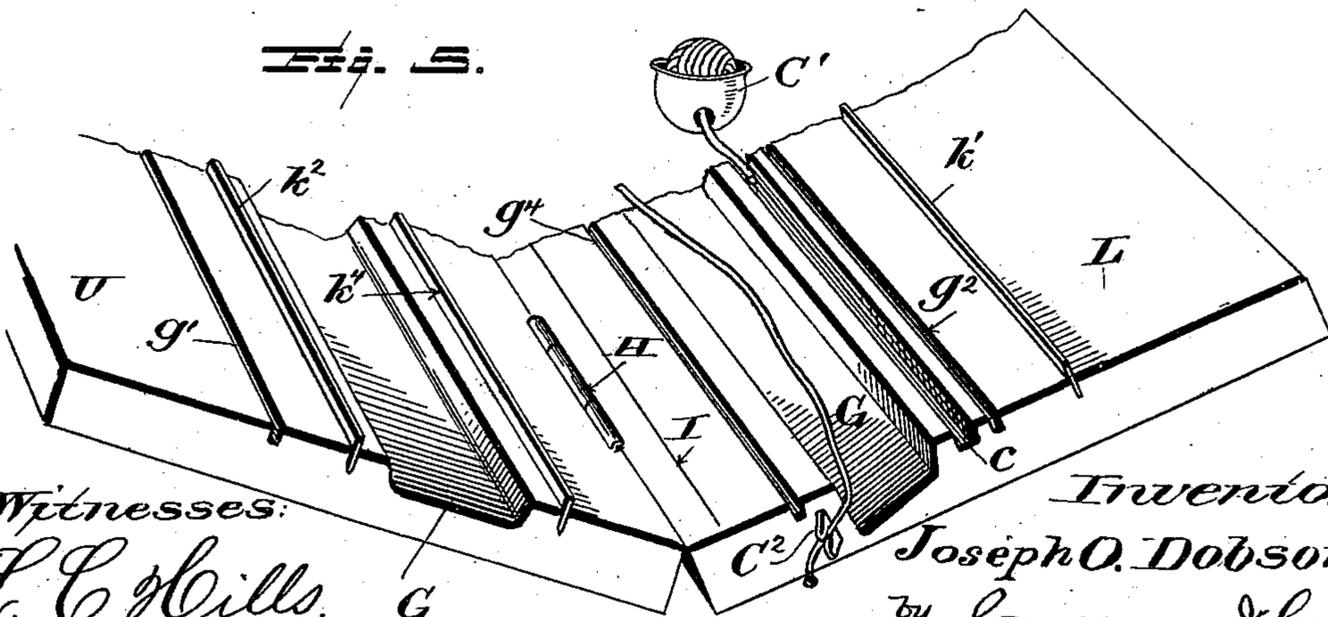
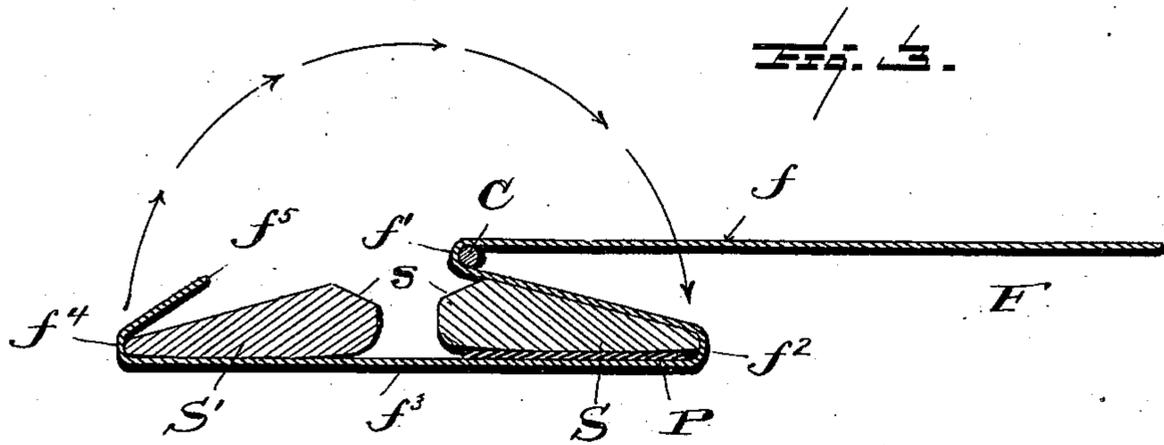
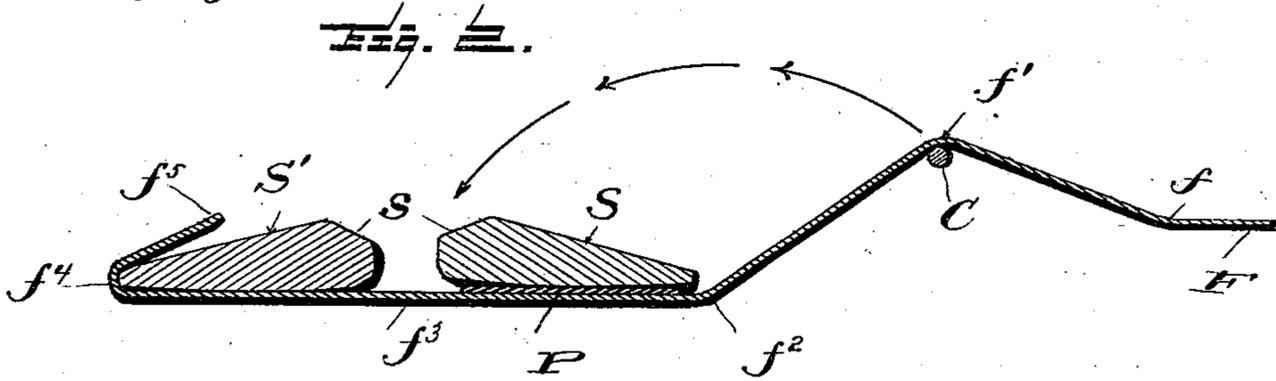
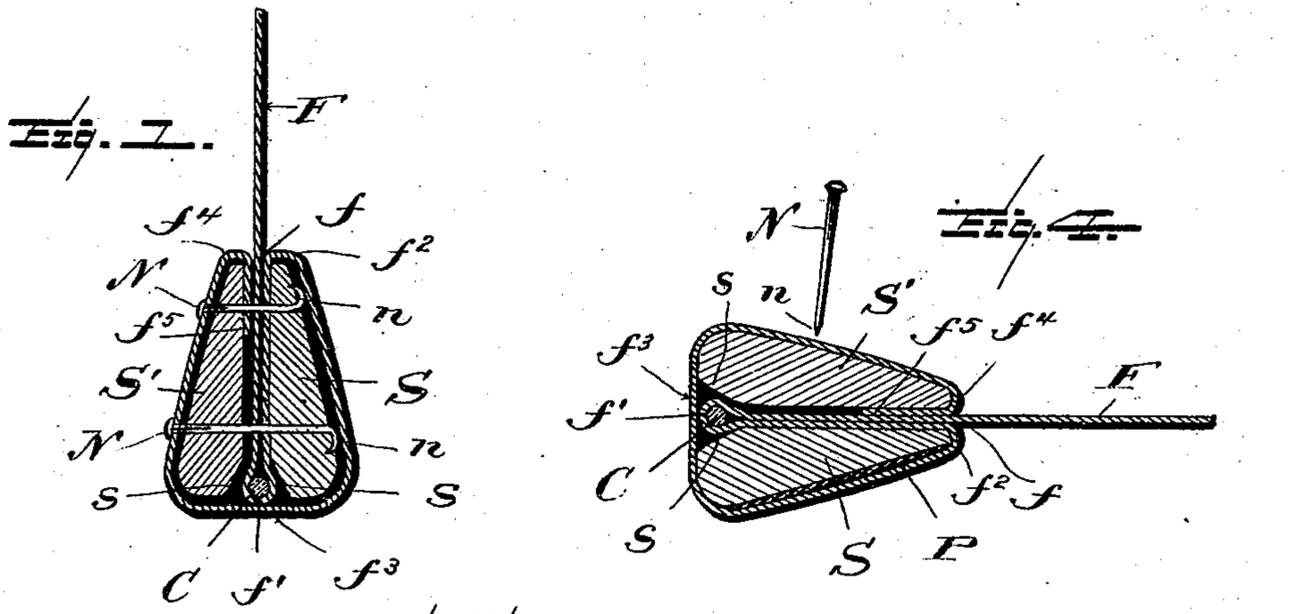


J. O. DOBSON.

CURTAIN STICK FASTENER AND MACHINE FOR MAKING SAME.

No. 549,769.

Patented Nov. 12, 1895.



Witnesses:  
*L. C. Hills.*  
*J. H. Jochum Jr.*

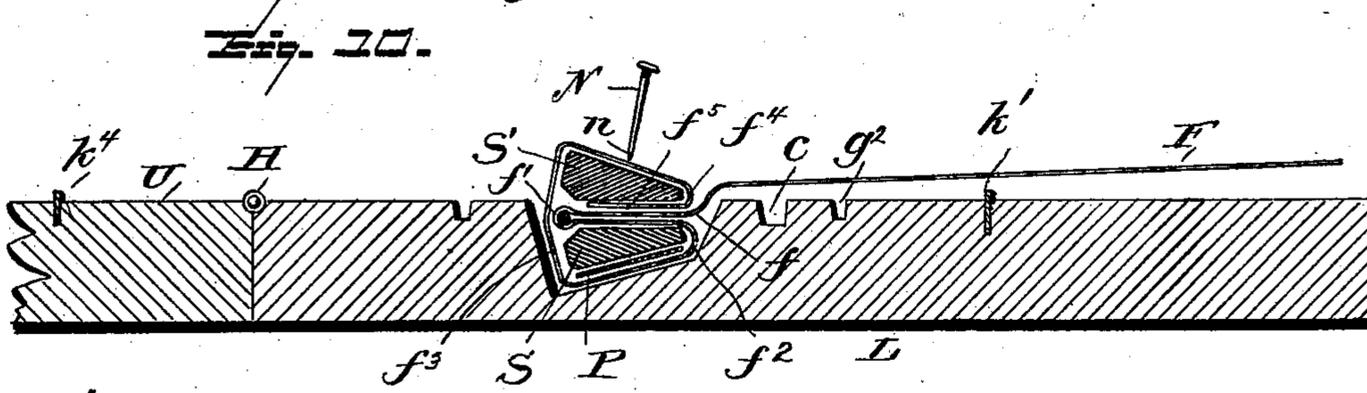
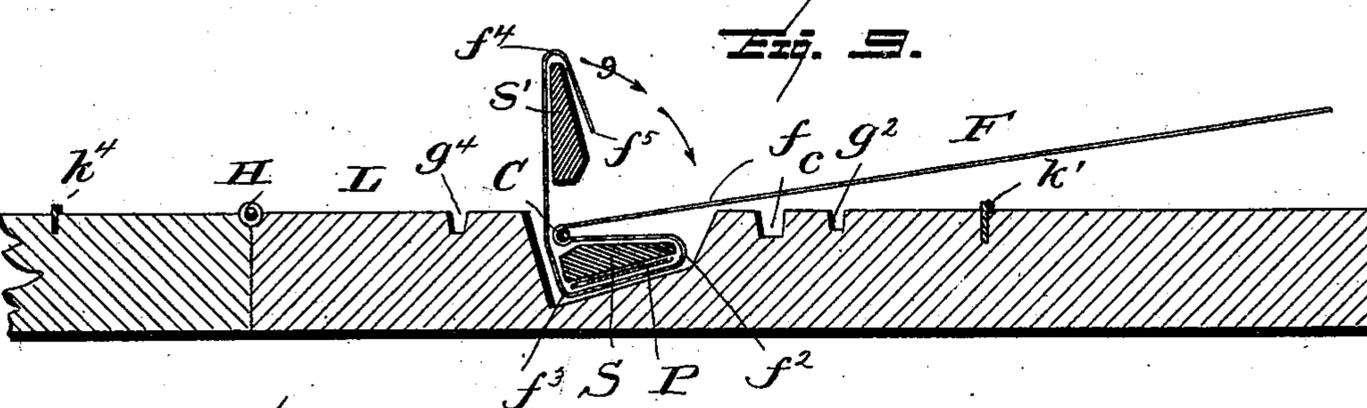
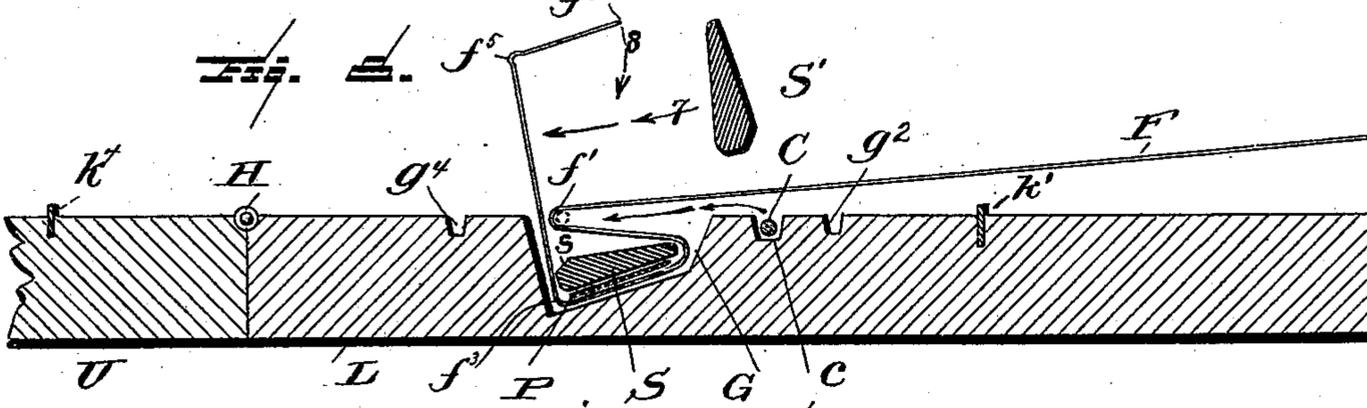
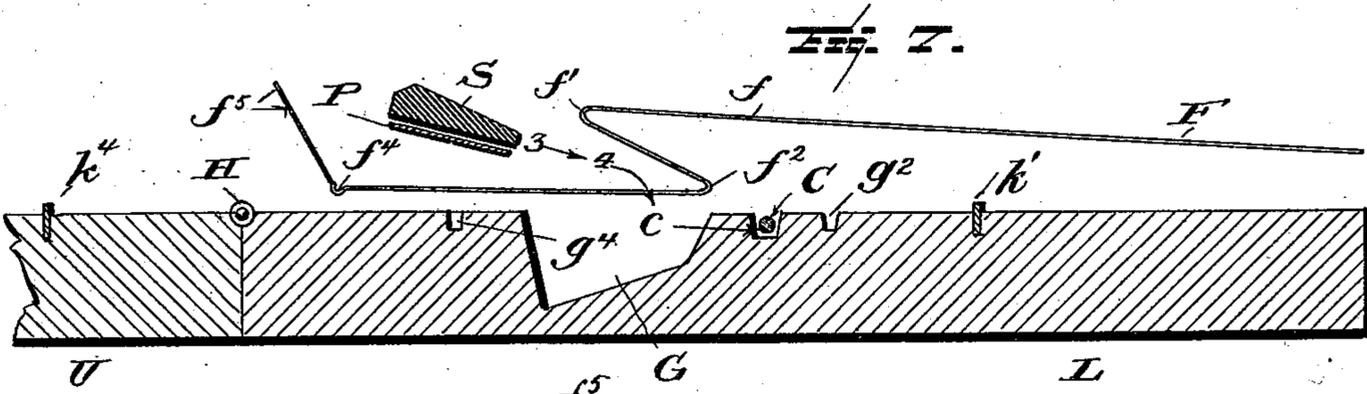
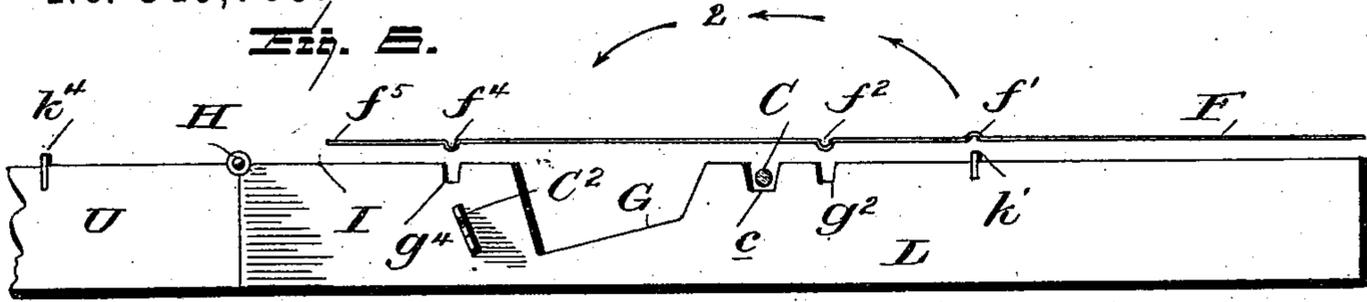
Inventor:  
*Joseph O. Dobson,*  
 by *Collamer & Co.,*  
 Attys.

J. O. DOBSON.

CURTAIN STICK FASTENER AND MACHINE FOR MAKING SAME.

No. 549,769.

Patented Nov. 12, 1895.



Witnesses:  
*L. C. Hills.*  
*J. H. Jochem Jr.*

Inventor:  
*Joseph O. Dobson,*  
*by Collamer & Co.,*  
*Attys.*

# UNITED STATES PATENT OFFICE.

JOSEPH O. DOBSON, OF SIOUX FALLS, SOUTH DAKOTA, ASSIGNOR OF TWO-THIRDS TO WILLIAM H. RAMSEY AND FRED M. BOOTH, OF SAME PLACE.

## CURTAIN-STICK FASTENER AND MACHINE FOR MAKING SAME.

SPECIFICATION forming part of Letters Patent No. 549,769, dated November 12, 1895.

Application filed November 27, 1894. Serial No. 530,080. (No model.)

*To all whom it may concern:*

Be it known that, JOSEPH O. DOBSON, a citizen of the United States, and a resident of Sioux Falls, Minnehaha county, State of South Dakota, have invented certain new and useful Improvements in Curtain-Stick Fastenings and Machines for Making the Same; and my preferred manner of carrying out the invention is set forth in the following full, clear, and exact description, terminating with claims particularly specifying the novelty.

This invention relates to curtains, shades, and screens, and more especially to the sticks at the lower end of shades, such as are usually mounted at their upper end on and wind around a spring-roller; and the object of the same is to produce certain improvements in sticks of this character, the method of fastening them to the lower end of the shade, and the machine for doing this work.

To this end the invention consists in the construction of parts, the steps of the operation, and the machine, all as hereinafter more fully described and claimed, and as illustrated in the accompanying drawings, wherein—

Figure 1 is a section of the lower end of the finished shade, showing the two-part stick in place and the clinching-plate as having been withdrawn. Figs. 2, 3, and 4 are sections showing the manner of making this fastening by hand. Fig. 5 is a perspective view of the "break" or machine which I preferably employ for properly scoring the shade and holding the parts while they are being assembled. Figs. 6 to 10, inclusive, are sectional views of the lower leaf of the break, showing the various steps of forming the fastening thereby.

Referring now to Fig. 1, the letter F designates the fabric or material of which the body of the shade is composed, and this may be of any suitable substance which is sufficiently pliable to permit its being bent, as hereinafter described, without cracking or breaking, and sufficiently tough to withstand the strain put upon it, and it is obvious that it may be opaque or not, and may be of any color, weight, length, and breadth. SS' are the two parts or members of the stick, which are to be connected with the lower edge of the shade F. These parts are complementary of each other

and are of about the section shown in this view, each coming at its upper edge nearly or quite to a sharp angle, its inner face being flat and its outer face slightly rounding, its body growing slightly thicker toward the lower edge, and the outer rounding face being continued around this edge and slightly flattened or beveled, as at *s*, where the lower edge joins the flat inner face. In the finished article these two parts of the stick stand relatively as shown in this view, but much closer together, as they are here slightly separated to better show the folds of the shade. Passing downward the latter enters at *f* between the upper edges of the sticks, extends vertically between their flat inner faces, makes a bend at *f'* around a cord C, which stands in the angle formed by the bevels *s*, then rises vertically again between the flat faces, then turns at *f*<sup>2</sup> over the upper edge of the stick S, then passes down outside of this stick, around and completely under both sticks and the cord, as at *f*<sup>3</sup>, making a rounding or sweeping bend at this point, then extends up the outer face of the other stick S' and over its upper edge, as at *f*<sup>4</sup>, and the end of the shade passes alongside the portion which first entered between the sticks and extends down between them to the point *f*<sup>5</sup>. One or more nails N are then driven through the outer fold, the stick S', the first and second folds, and the stick S, and their points *n* are caused to clinch upon the remote face of the stick S inside of the third fold of the shade, whereby they do not puncture this fold, which is intended to hang toward the room. In this view I have shown two of these nails, one above the other, although it will be understood that there are only two or three in horizontal line throughout the length of the two-part stick.

Figs. 2, 3, and 4 illustrate the manner of making this curtain-stick fastening without the use of any machinery. The sticks S S' are first laid upon the shade with a long metal strip or plate P between the stick S and the shade, as seen in Fig. 2, and the latter is bent upward, as at *f'*, downward, as at *f*<sup>2</sup>, then upward slightly, as at *f*<sup>3</sup>, whence it extends under the two sticks, and finally bent upward, as at *f*<sup>4</sup>, and its end *f*<sup>5</sup> laid over the stick S'.

A cord C is then passed under the fold  $f'$ , and the latter carried from the position shown in Fig. 2, through the curve indicated by the dotted arrow, to the position shown in Fig. 3, whereby the fold  $f^2$  is caused to be drawn tightly over the upper edge of the stick S. The fold  $f^4$  and with it the stick S' are then carried bodily from the position shown in Fig. 3, through the curve indicated by the dotted arrow, over to the point  $f$ , and borne tightly down thereupon, as indicated in Fig. 4, whereby the parts are closely assembled, and the bevels  $s$  of the two sticks form an angle which receives the cord C and the fold  $f'$  that surrounds it. The nails N are then driven through the sticks S' and S, and when their points  $n$  strike the plate P the latter will clinch them and cause them to bend back into the stick S, as seen in Fig. 1. This plate may then be withdrawn longitudinally, if desired, although, if preferred, it may be left in place to afford additional weight and strength. A curtain-fastening as thus constructed is extremely neat in appearance and durable in use. The clinched nails prevent the separation of the sticks, and the angle formed by their bevels  $s$  prevents the upward movement of the cord and fold  $f'$  between the sticks and out of proper position. The lower end of the shade has a neat appearance, and the heads of the nails are only visible on the side toward the street, while the fold which surrounds the inner stick and the large bend under the two sticks are perfectly smooth. When it is desired to remove the sticks, it is only necessary to withdraw the small nails, and the members will fall apart.

It will readily be observed that it is quite difficult to form the folds, as seen in Fig. 2, by hand in such manner that they would be at exactly the proper distances apart to receive the members when the article is finished, and unless these folds are properly spaced it will also be clear that the beauty of the finished article will be considerably deteriorated by having one or more of the folds more or less loose. I have therefore devised the machine illustrated in Fig. 5, which I call a "break," and whose function is to score the shade with the necessary folds at exactly the proper points, as well as to afterward hold the shade and the cord while the parts are being assembled. This break consists of an upper leaf U and a lower leaf L, connected at their meeting edges by hinges H and provided at proper points with registering-grooves G, as seen. Near the hinge the lower leaf L has an indicator-mark I, between this mark and the groove G it has a shallow groove  $g^4$ , at the other side of the groove G it has a medium-sized groove  $c$  for the cord, beyond this it has a second small groove  $g^2$ , and beyond this latter it is provided with a rib or knife  $k'$ , rising above its face. The upper leaf U is provided near its hinge with a knife  $k^4$ , adapted when the leaves are closed to enter the groove  $g^4$  and to form the fold  $f^4$ , and at the outer side

of its large groove G it is provided with a second knife  $k^2$ , and beyond this with a groove  $g'$ , which respectively engage the groove  $g^2$  and the knife  $k'$  of the lower leaf to form the folds  $f^2$  and  $f'$ . At one end of the cord-groove  $c$  is a cup or other device C' for holding a ball of cord, and at the ends of the lower leaf, adjacent the inner edge of the large groove G therein, are clamps or fastening devices C<sup>2</sup> for holding the cord. Suitable handles or machinery may be provided for holding the lower leaf and closing the upper over upon it at proper intervals; but I have not considered it necessary to illustrate or describe these. The whole is of proper materials and proportions to make a curtain-fastening of the size desired.

Figs. 6 to 10, inclusive, illustrate the manner in which this break is used in constructing a curtain-fastening of my improved type. The cord C is first drawn from the ball and laid along with the cord-groove  $c$ , the shade F is then laid upon the lower leaf L with its end  $f^5$  at the indicator-mark I, and the upper leaf U is then carried over and borne down upon the lower leaf, whereby the three knives  $k$  enter the three grooves  $g$  and score the curtain F on the lines  $f'$ ,  $f^2$ , and  $f^4$ , as indicated in Fig. 6. The upper leaf is then thrown back and the shade moved toward the hinge, as per arrow 1, until the fold  $f^2$  has passed over the cord-groove  $c$  and stands about above the outer edge of the large groove G. The shade is then bent along its folds  $f'$  and  $f^2$ , as per arrow 2, so as to produce a Z-shaped double, as illustrated in Fig. 7, and the stick S, with the clinching-plate P beneath it, are passed into the lower angle of this double, as per arrow 3, and then borne down into the groove, as per arrow 4. This causes the parts to assume the position shown in Fig. 8. The cord C is then taken from its groove and moved, as per arrow 5, into the fold  $f'$ , then borne downward, as per arrow 6, upon the bevel  $s$  of the stick S, and the extremities of the cord where they pass beyond the edges of the shade are engaged with the fastening devices C<sup>2</sup> at the edges of the break, the cord being drawn taut, so as to hold the lower angle of the double in the position shown in Fig. 9. The other stick S' is then brought up against the shade, where it projects above the lower leaf L, as indicated by the arrow 7, and the end  $f^5$  of the shade is bent down upon the inner face of this stick, as indicated by arrow 8, so as to bring the fold  $f^4$  over the thinner edge of the stick. The parts then stand as shown in Fig. 9, and the next step is to turn the fold  $f^4$  and with it the stick S' down, as indicated by the arrow 9, so that the fold  $f^4$  strikes the line  $f$  of the shade and presses the same down into the groove G. At this time the upper leaf U of the break may be brought forcibly down upon the assembled parts to clamp them tightly together. On raising this leaf the parts stand as seen in Fig. 10. The nails N may then be driven in the manner illustrated

and as described above, and their points *n* will be turned by the plate *P* back into the stick *S*, as shown in Fig. 1. The cord is then cut off a little shorter than the lengths of the sticks, the entire finished shade removed from the break, and the cord again drawn along the groove *c* for renewed operation. As in the case above, the fastening-plate *P* may or may not be removed, as is desired.

It will be seen that by the use of this break not only are the folds formed in the shade on the proper lines, but the necessary disposition of the string is effected, and the parts are thoroughly pressed together at the proper moment before the nails are driven.

It is obvious that instead of the nails I might employ screws, rivets, staples, and other suitable fastening devices, and in some instances the various parts might be glued together without essentially departing from the spirit of my invention.

What is claimed as new is—

1. In a curtain stick fastening, the combination with a two-part stick; of a shade passing completely and independently around each part of the stick with its end turned in between the parts, and nails passing transversely through both sticks and all folds of the shade except the one upon the outer face of one stick, said nails having their points clinched into said outer face of this stick beneath the fold of the shade which covers it, substantially as described.

2. The herein described machine for forming a curtain stick fastening, the same being composed of two leaves connected at their meeting edges by hinges, large grooves in the leaves adapted to register to receive the stick, in the lower leaf small grooves at opposite sides of the large groove and a knife outside of the outer small groove, and in the upper leaf knives and grooves adapted to respectively register with those in the lower leaf, as and for the purpose set forth.

3. The herein described machine for forming a curtain stick fastening, the same being composed of two leaves connected at their meeting edges by hinges, large grooves in the leaves adapted to register to receive the stick, a cord-groove in one leaf adjacent this large groove, and three pairs of grooves and knives in the two leaves adapted to register when

they are folded together, as and for the purpose set forth.

4. The herein described machine for forming a curtain stick, the same being composed of two leaves connected at their meeting edges by hinges, large grooves in the leaves adapted to register to receive the stick, a cord-groove in one leaf adjacent the outer edge of this large groove, a cord-ball-cup at one end of the cord groove, fastening devices at the ends of this leaf adjacent the other edge of the large groove, and additional grooves and knives in the two leaves adapted to register when they are folded together, as and for the purpose set forth.

5. The herein described machine for forming a curtain stick, the same being composed of two substantially flat leaves connected at their meeting edges by hinges, one leaf having a transverse cord-groove and a cord-ball-cup at one end of this groove, and the meeting faces of the two leaves being additionally provided with grooves and knives adapted to register in pairs when the leaves are folded together, as and for the purpose set forth.

6. In a curtain stick fastening, the combination with a two-part stick; of a shade passing completely around both parts of the stick with its end turned in between them, a fastening plate extending along the outer face of one stick under the fold which covers it, and fastening devices passing through both sticks with their inner ends resting against said plate and clinched into the adjacent face of the contiguous stick, substantially as described.

7. In a curtain stick fastening, the combination with the stick, and a shade passing completely around the same; of a fastening plate extending along one face of the stick under the adjacent fold of the shade, and a nail passing through the shade and stick with its end resting against the inner face of said plate and clinched against the adjacent face of the stick, substantially as described.

In testimony whereof I have hereunto subscribed my signature on this the 24th day of November, A. D. 1894.

JOSEPH O. DOBSON.

Witnesses:

C. H. WINSOR,  
J. H. SHELDON.