

Sept. 8, 1970

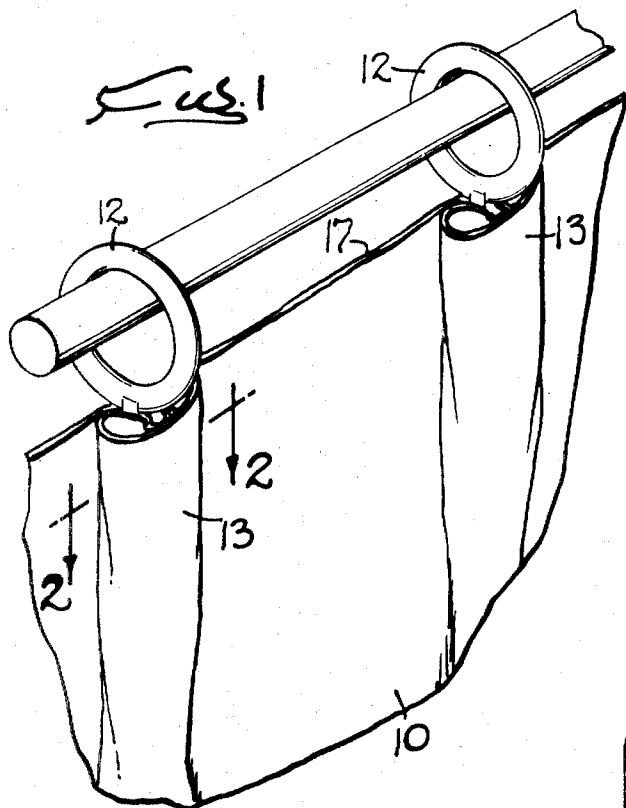
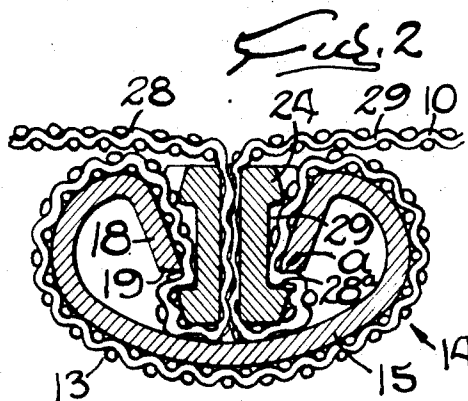
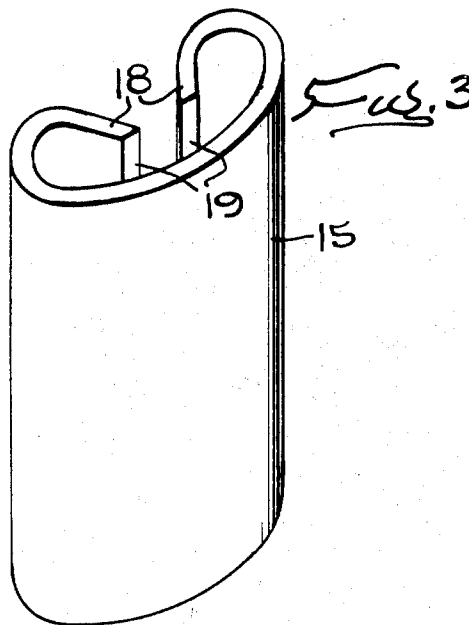
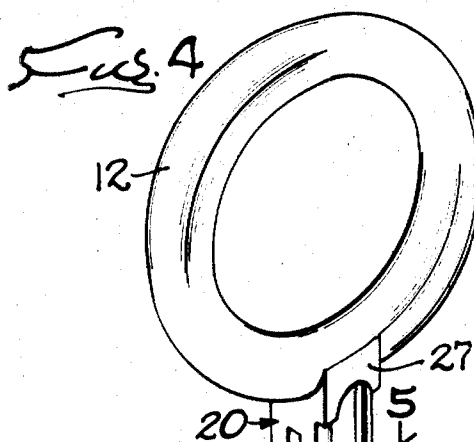
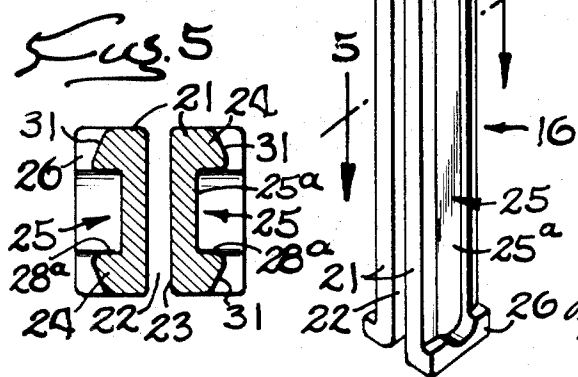
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CURTAIN PLEAT FORMER

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2 Sheets-Sheet 1



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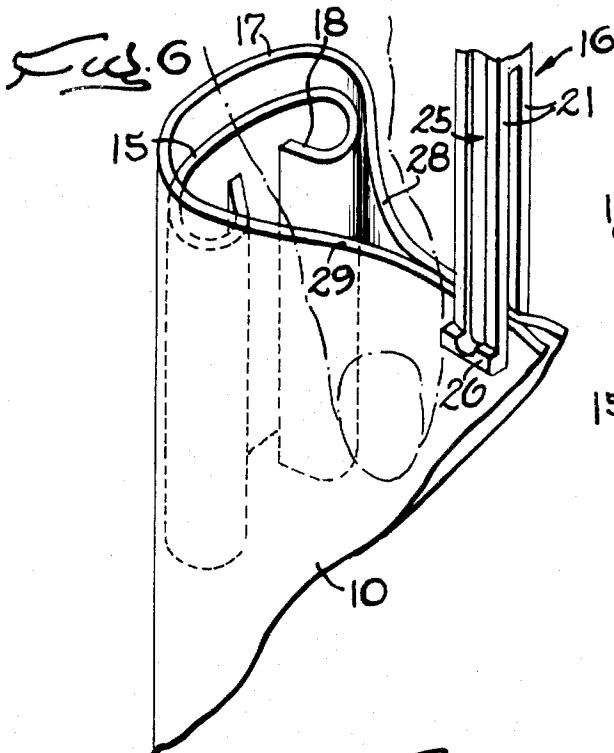
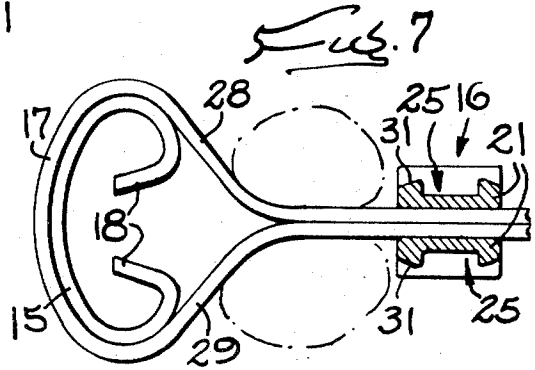
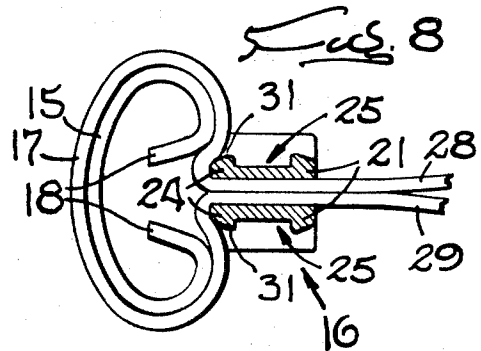
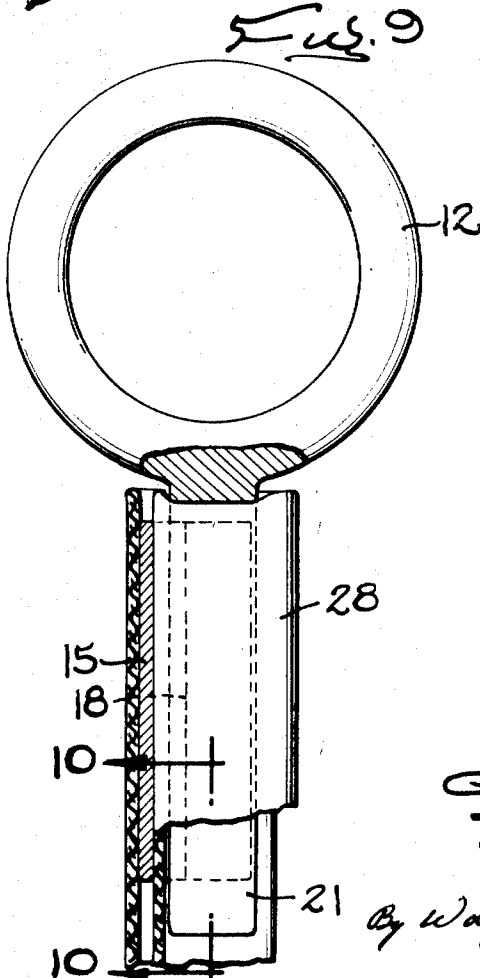
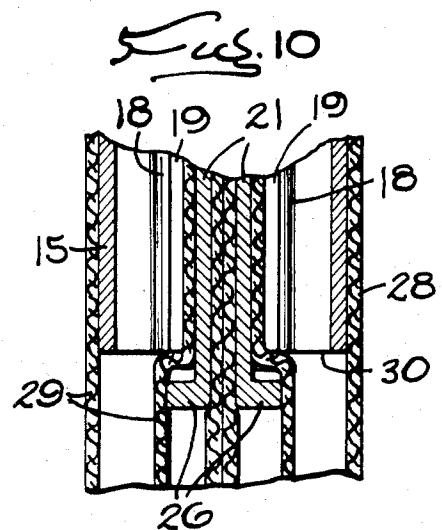
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CURTAIN PLEAT FORMER

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2 Sheets-Sheet 2



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3,527,284

## CURTAIN PLEAT FORMER

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9 Claims

### ABSTRACT OF THE DISCLOSURE

For forming a pleat in a curtain, a pleater is locked into the upper edge of the curtain. The pleater has two basic parts that are locked together with the curtain between them to form a pleat and, at the upper end of the pleater is a ring for hanging the curtain.

### BACKGROUND OF THE INVENTION

The invention relates to an assembly for forming pleats in a curtain without permanently sewing them in.

### SUMMARY OF THE INVENTION

The primary aim of the present invention is to provide a novel assembly for forming a pleat in a curtain by the simple interfitting of two parts and without sewing. More specifically, this is accomplished by a clip and an insert which clamp a portion of a curtain between them to form a pleat. A further aim is to provide a novel assembly for making a pleat in a curtain that is removable so that the curtains may be easily taken down, washed, dried, ironed and rehung. The invention also resides in the novel arrangement of the clip and the insert. Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings.

### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a curtain hung and pleated by the novel pleaters of the present invention.

FIG. 2 is an enlarged cross-section taken along line 2—2 of FIG. 1 showing the pleater locked in a curtain.

FIG. 3 is a perspective view of the clip portion of the pleater.

FIG. 4 is a perspective view of the insert position with a ring attached.

FIG. 5 is an enlarged cross-section taken along line 5—5 of FIG. 4.

FIG. 6 is a perspective of a partially installed pleater.

FIG. 7 is a top view of FIG. 6.

FIG. 8 is a top view of a partially installed pleater at a point just prior to the insertion of the insert into the clip.

FIG. 9 is a side view of a fully installed pleater with portions of the curtain broken away for purposes of clarity.

FIG. 10 is a fragmentary cross-section taken along the line 10—10 of FIG. 9.

### DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in the drawings for purposes of illustration the invention is embodied in a pleater 14 for forming a pleat 13 in a curtain 10 suspended from rod 11 by rings 12. In accordance with the present invention, the pleat 13 is formed in a novel manner in the curtain 10 by the pleater 14 which preferably is suspended from the bottom of the ring 12. More specifically, the pleater 14 includes a clip 15 and an insert 16 attached to the ring 12 and the clip and insert are locked onto the upper edge 17 portion of the curtain 10 to form the pleat 13.

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In the present instance, the clip 15, which may be extruded from a plastic such as polystyrene, is an elongated part with a C-shaped cross-section having flanges 18 converging inwardly from the ends of the C toward its center. In forming a pleat 13, the clip 15 is positioned such that its elongated direction is vertical.

Integral with and extending from the bottom of the ring 12 is the insert 16 which has a base 20 and two parallel legs 21 extending downwardly therefrom and separated by a space 22 of sufficient width to hold a double thickness of the curtain 10. The legs 21 positioned face to face are identical and as best shown in FIGS. 4 and 5 the inside face 23 of each leg is flat. Along the outside edges of each leg 21 are ribs 24 defining a space between them to form a locking groove 25 of a length slightly longer than the clip 15. To provide a camming surface (FIG. 5), the outside face 31 of each rib 24 is sloped outwardly. Across each end of the leg 21 are ledges 26 and 27 which define the upper and lower limits of the locking groove 25 and are of greater depth than the ribs 24. The ring 12, the base 20 and the legs 21 may be molded integrally from polystyrene.

To assemble the pleater 14 and form a pleat 13, the upper edge portion 17 of the curtain 10 is wrapped around the clip 15 to form two extending edge portions 28 and 29 of the curtain which are grasped between the user's thumb and index finger (shown in phantom in FIGS. 6 and 7). While straddling the extending edge portions 28 and 29 of the curtain 10, the insert 16 is slid along the top of the extended edge portions as the thumb and index finger are removed until the insert reaches the mouth of the clip 15 (FIG. 8).

As the cam surfaces 26 on the ribs 24 cam the flanges 18 of the clip 15 back, the insert, pushing the upper edge portion 17 of curtain 10 ahead of it, is slipped into the clip 15. After the first rib 24 on each leg 21 passes the cammed back flanges 18, the flanges 18 spring forward into the respective locking grooves 25. An acute angle  $\alpha$  is formed on the leading edge 19 of the free end of each flange 18 such that the edge of each flange seats on the inner wall 28a of the respective rib 24 locking the curtain between the flange 18, and the rib 24, and the bottom 25a of the locking groove 25. To keep the clip 15 and the curtain 10 from sliding off the insert 16 in a downwardly direction, the lower ends 30 of the flanges 18 with the curtain 10 rest on the ledges 26 at the free ends of the legs 21. To remove the pleater, the clip 15 is bent back and the insert 16 is slid out.

From the foregoing it will be apparent that the novel arrangement of the clip 15 and the insert 16 gives a simple and inexpensive structure with which to pleat and hang curtains. It is apparent that, with ease of installation and removal afforded by the clip and insert, the curtains can be taken down and have the pleats removed for real ease in washing and ironing. Once cleaned and ironed, the curtains may be easily pleated and rehung with no sewing and only the most simple mechanical movements.

We claim as our invention:

1. A curtain pleater for connection with a curtain to form a pleat, said pleater comprising a C-shaped clip having resiliently yieldable flanges opposing each other and projecting inwardly from the ends of the C, said clip being adapted to have the upper edge portion of a curtain wrapped around the exterior of the clip, an insert having two generally parallel legs connected at one end and adapted to straddle two curtain portions extending across said flanges, said legs being disposed between said flanges, and locking means formed on said legs for coacting with said flanges so that the flanges resiliently hold the legs against withdrawal of the legs from between the flanges

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and thereby retain the pleat formed by the clip and the insert.

2. The curtain pleater of claim 1 in which said locking means includes two forwardly extending ribs on said legs forming locking grooves therebetween for receiving said flanges.

3. The curtain pleater of claim 2 in which said ribs are formed with outer faces that are sloped to provide camming surfaces for said flanges.

4. The curtain pleater of claim 2 in which the ends of said flanges are formed at an angle whereby they abut flatly against said ribs thereby locking said flanges in said groove.

5. The curtain pleater of claim 1 in which said locking means includes a forwardly extending ledge on each said leg at the end opposite said one end whereby said clip may rest on said ledge.

6. The curtain pleater of claim 1 in which means for suspending said pleater are connected to said insert.

7. The curtain pleater of claim 6 in which said suspending means is a ring connected to said insert at said one end and adapted to be mounted on a curtain rod for hanging pleated curtains.

8. A curtain pleater for connection with a curtain to form a pleat, said pleater comprising a C-shaped clip having resiliently yieldable flanges opposing each other and projecting inwardly from the ends of the C, the inward edge of said flanges being formed at an angle, said clip being adapted to have the upper edge portion of a curtain wrapped around the exterior of the clip, an insert having two generally parallel legs connected at one end and adapted to straddle two curtain portions extending across said flanges, said legs disposed between said flanges, locking means formed on said legs, said locking means including on each said leg two forwardly extending ribs forming a locking groove therebetween and a forwardly extending ledge at the end of said leg opposite said one end, said ribs having sloping faces, to provide camming

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surfaces for the flanges, said flanges cocked into the locking grooves by the ribs and the ledges whereby the flanges resiliently hold the legs in place and thereby retain the pleat formed by the clip and the insert.

9. A curtain pleater for connection with a curtain to form a pleat in the curtain while being hidden in the curtain, said pleater comprising a C-shaped clip having resiliently yieldable flanges opposing each other and projecting inwardly from the ends of the C toward the back of the C, said clip being formed to have the upper edge portion of the curtain wrapped around the exterior of the clip, an insert having two generally parallel legs connected at one end for straddling two curtain portions extending across said flanges, said legs being disposed between said flanges, means connected to said insert for suspending said pleater, and locking means formed on said legs for coacting with said flanges to prevent withdrawal of the legs from between the flanges under the influence of the curtain so that said pleater is hidden in the curtain while said suspending means supports the curtain.

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U.S. Cl. X.R.

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