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(54) **DEVICE TO MAKE AND KEEP WAVED PLEATS FOR DRAPERY**

(57) **ABSTRACT**

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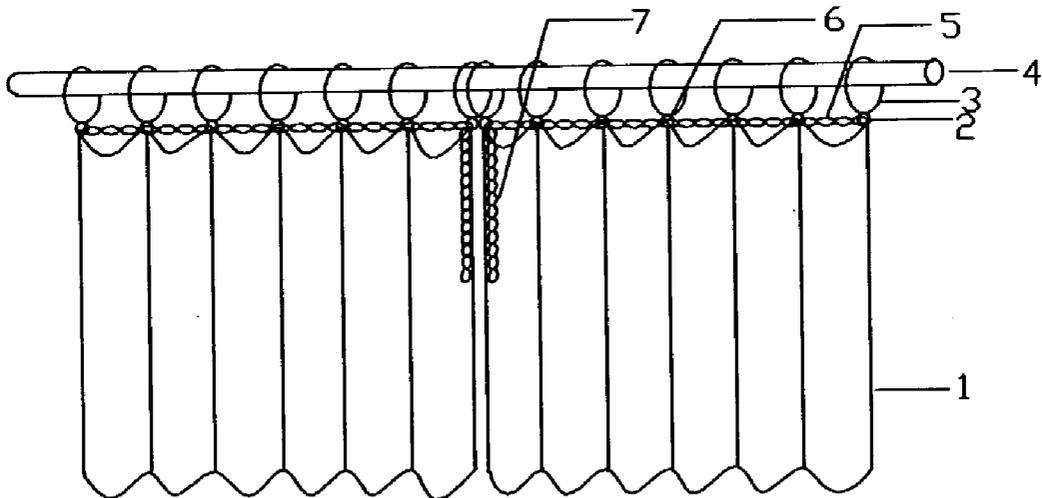
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A device to make and keep natural waved pleats for a drapery is comprised of a long thin flexible matter and some linkups. The long flexible matter may be a chain, and it may be a rope too, etc, and a linkup may be a keyring, a buckle or a tie, etc. The linkup may be fixed at any position of the long flexible matter. Generally, the drapery is comprised of a fabric, hooks, slide matters and a rod. The fabric is hanged into the slide matters with the hooks, and the slide matters can slide along the rod. So, we can draw the drapery by moving the slide matters. If we arrange the slide matters at equal interval along the rod and join the long flexible matter to the slide matters with the linkups correspondingly, and the equal interval between the slide matters be controlled by the device. With the device, the drapery with wider fabric than the rod should not become plane, but lively and finished with the natural waved pleats. Also, we can adjust position of the linkups along the long flexible matter to fit any size of window and many types of the drapery. Further, we can easier do a nice drapery by ourselves only hemming a piece of rectangle fabric without pleating with a pleating machine, and said device will help us make and keep the natural waved pleats.



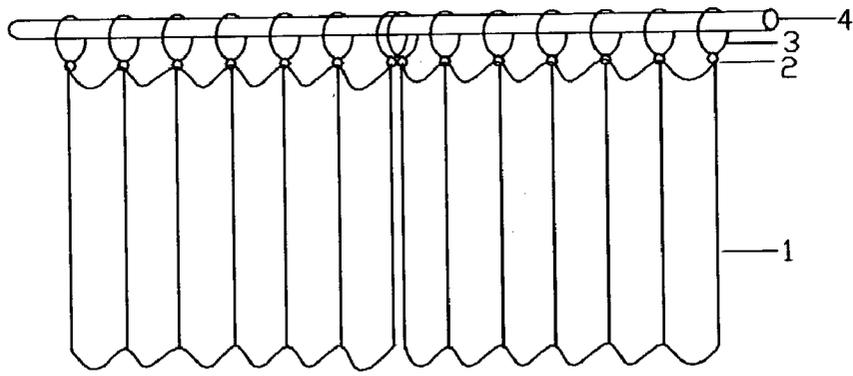


Fig. 1a

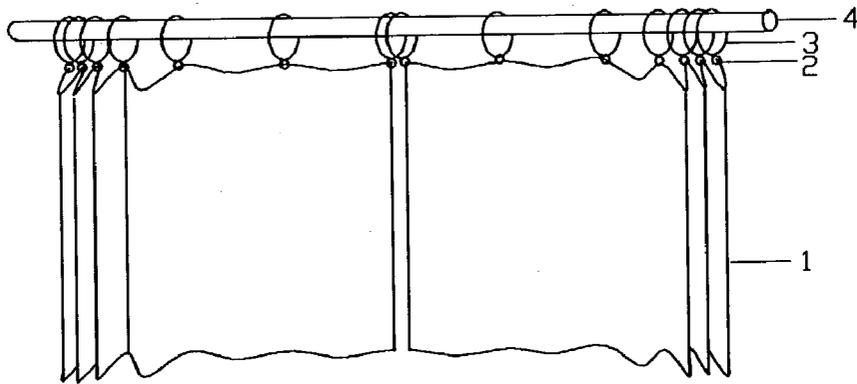


Fig. 1b

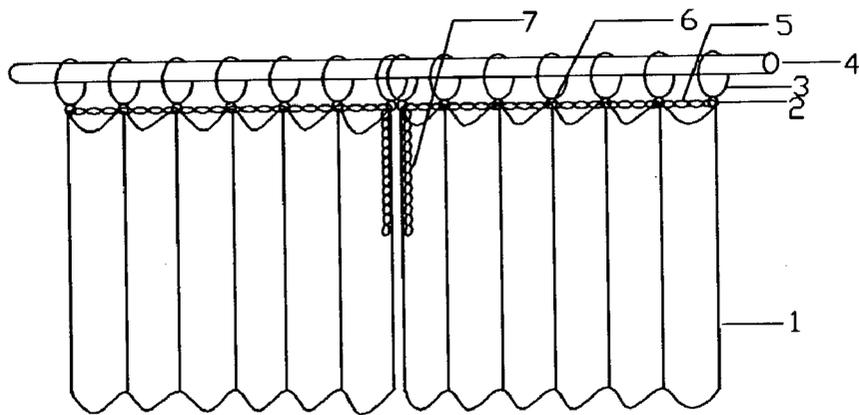


Fig. 1c

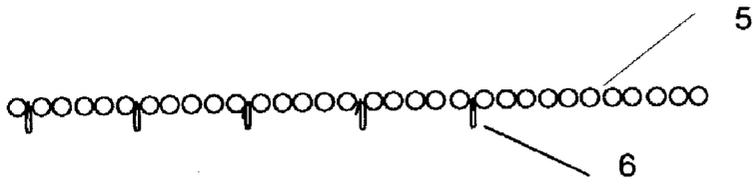


Fig. 2

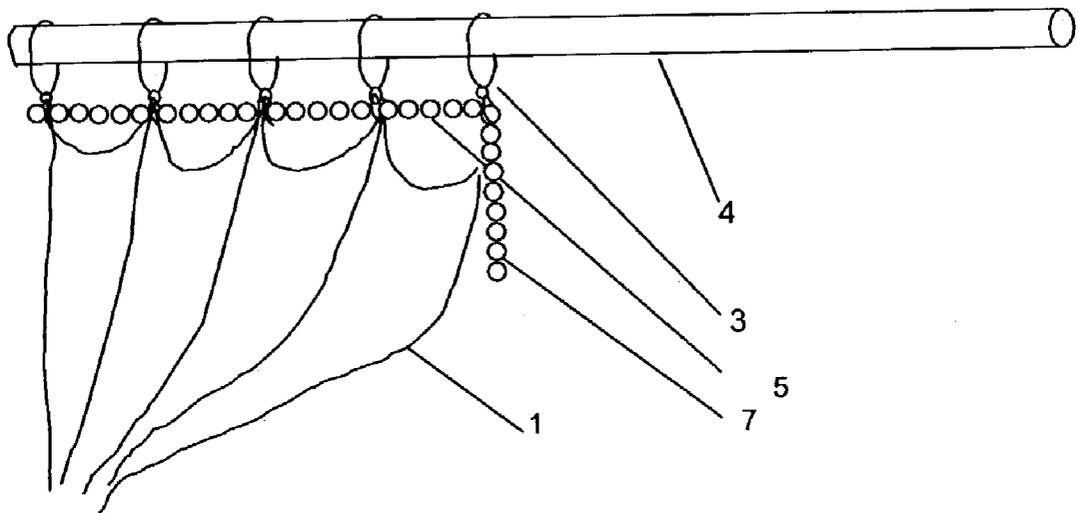


Fig. 3

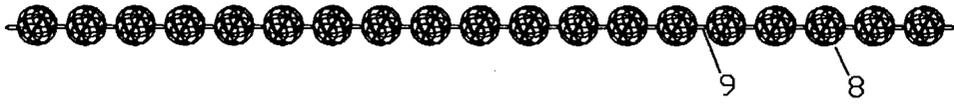


Fig. 4

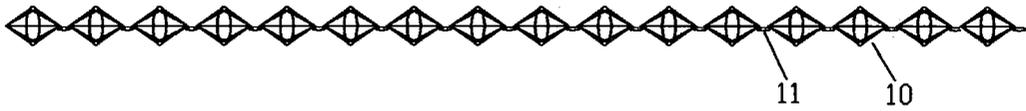


Fig. 5



Fig. 6

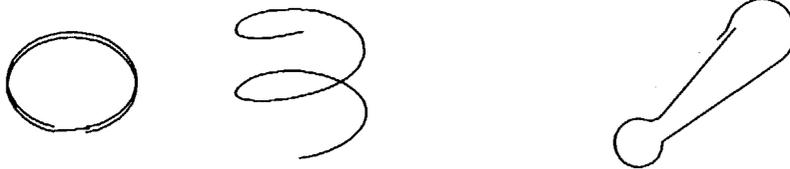


Fig. 7

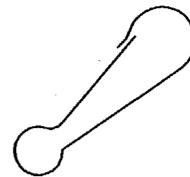


Fig. 8

DEVICE TO MAKE AND KEEP WAVED PLEATS FOR DRAPERY

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of U.S. Provisional Application No. 60/374,183, filed Apr. 22, 2002.

FIELD OF THE INVENTION

[0002] The present invention is related to a device to make and keep natural waved pleats for a drapery. Said device is comprised of a long flexible matter and some linkups. Said long flexible matter may be a chain, and it may be a rope too. It is a very nice ornament for the drapery too.

BACKGROUND OF THE INVENTION

[0003] Generally, the drapery is comprised of a fabric 1, hook 2s, slide matter 3s and a rod 4. (See FIG. 1a) Although each of them may have various shape or size, they always perform their own task. Fabric 1 is hanged into slide matter 3s with hook 2s, and slide matter 3s can slide along rod 4. So, we can draw the drapery by moving slide matter 3s.

[0004] One slide matter is not related with another in motion when the fabric is not hanged into the slide matters, i.e. they are independent of each other. The motion of these slide matters is related only when the fabric is hanged into the slide matters. When we draw the drapery by moving the first slide matter, the fabric will draw the second slide matter, the third slide matter . . . one by one.

[0005] For a common style, the width of the ready-pleated fabric is about the same as the width of the rod, so the slide matters and the pleats of the fabric are equally distributed along the rod correspondingly. That is, the width of the fabric between the two pleats is equal to that between the two slide matters. Under this condition, when we draw the drapery by moving the first slide matter, the fabric can draw the other slide matters and arrange them evenly on the rod.

[0006] But now, another type of the drapery comes into style. This type of the drapery has almost no prefabricated pleat, and the waved pleats of this drapery are naturally formed by the wider fabric between the two slide matters, so the fabric is always wider than the rod in this style. The fabric should be shared corresponding to the slide matters, so there is the more fabric between the two slide matters. The most ready-made drapery sold in stores falls into this style. It is its advantage to fit various sizes of windows within certain range because its width is not fixed, and this style of the drapery looks more natural and lively.

[0007] However, this waved pleats is not made easy because of the wider fabric. As stated above, when we draw the drapery, the second slide matter, the third slide matter . . . are drawn by the fabric, so the fabric between the first slide matter and the second slide matter, the second slide matter and the third slide matter . . . is stretched one after another, but the side slide matters do not move likely, and intervals between the slide matters are unequal, and the fabric becomes plane without any waved pleat, but the side fabric is not unfolded. (See FIG. 1b) Obviously, the waved pleats are not produced as we draw. To produce the waved pleats, we have to move every slide matter by hand and regularize their position equally, so that the wider fabric

between the slide matters makes the waved pleats (see FIG. 1a). But it is very hard and irritating. We need such a device to be able to control the equal interval between the slide matters to make and keep the waved pleats for the drapery.

BRIEF SUMMARY OF THE INVENTION

[0008] A device to make and keep natural waved pleats for a drapery is simply comprised of a long thin flexible matter 5 and some linkup 6s. Long flexible matter 5 may be a chain, and it may be a rope too, etc, and linkups 6 may be a keyring, a buckle, or a tie, etc. Linkup 6 may be fixed at any position of long flexible matter 5. Generally, the drapery is comprised of a fabric 1, hook 2s, slide matter 3s and a rod 4. Fabric 1 is hanged into slide matter 3s with hook 2s, and slide matter 3s can slide along rod 4, so we can draw the drapery by moving slide matter 3s. If we arrange slide matter 3s at equal interval along rod 4 and join long flexible matter 5 to slide matter 3s with linkup 6s in order, and the equal interval between slide matter 3s can be controlled by said device. With said device, the drapery with wider fabric than the rod should not become plane, but lively and finished with the natural waved pleats. Also, we can adjust position of linkup 6 along long flexible matter 5 according to different condition, so said device can fit any size of window and many types of the drapery. Further, we can easier do a nice drapery by ourselves only hemming a piece of the rectangle fabric without pleating with a pleating machine, and said device will help us make and keep the natural waved pleats.

DRAWING FIGURES

[0009] In the drawings, closely related figures have the same number but different alphabetic suffixes. FIG. 1a shows a drapery that is regularized by hand to show the waved pleats.

[0010] FIG. 1b shows a drapery without the device and it looks plane without the waved pleats.

[0011] FIG. 1c shows a drapery with the device and it can make and keep the naturally waved pleats.

[0012] FIG. 2 shows how to fix the linkup onto the long flexible matter.

[0013] FIG. 3 shows how to join the device to the slide matters.

[0014] FIG. 4 shows an embodiment of the invention comprised of some mesh balls.

[0015] FIG. 5 shows another embodiment of the invention comprised of some solid rhombohedra.

[0016] FIG. 6 shows a structure of a textile rope as the device.

[0017] FIG. 7 is a figure of a keyring.

[0018] FIG. 8 is a figure of a buckle.

REFERENCE NUMERALS IN DRAWINGS

[0019]

1	fabric of the drapery	2	hook
3	slide matter	4	rod

-continued

5	long flexible matter	6	linkup
7	drooped portion of the long flexible matter	8	mesh ball
9	keyring	10	rhombohedron
11	buckle	12	rope
13	tie		

DESCRIPTION

[0020] A device to make and keep natural waved pleats for a drapery is simply comprised of a long thin flexible matter **5** and some linkup **6s**. Long flexible matter **5** as a main body of said device may be a chain, and it may be a rope too, etc, and linkups **6** may be a keyring, a buckle, or a tie, etc. Linkup **6s** may be fixed at any position of long flexible matter **5** at certain interval expected. (See **FIG. 2**) We can also adjust the interval to fit different windows or different styles of the draperies. And then we join long flexible matter **5** to slide matter **3s** of the drapery or some points of fabric **1** corresponding to slide matter **3s** with linkup **6s**. (See **FIG. 3**) So the interval expected between slide matter **3s** is controlled by said device, and all of the slide matters with expected interval should slide when we move the first slide matter and they should equally be arranged along rod **4**. Under this condition, what draws the second slide matter, the third slide matter . . . is not fabric **1**, but long flexible matter **5**, so the fabric is not stretched, but can keep waved and ordered. The interval mentioned here is such a distance between the slide matters of the drapery that it can make the wider fabric between the slide matters waved and pleated. If we droop more long flexible matter **5** from the first slide matter, we can draw the drapery by drawing drooped portion **7** of long flexible matter **5**. (See **FIG. 3**)

[0021] Long flexible matter **5** can be made of metal, wood, plastic, crystal, textile etc. with rich and various designs. Long flexible matter **5** not only has the good function, but also it is a very beautiful ornament for the draperies.

[0022] An embodiment of the invention includes some mesh ball **8s** and some keyring **9s**. The mesh ball **8s** are connected by keyring **9s** to form a chain. (i.e. long flexible matter **5**) Some of keyring **9s** should be linked to slide matter **3s** of the drapery as linkup **6s** at certain expected interval. (See **FIG. 4**) These keyrings connect not only two mesh ball **8s** but also slide matter **3s** of the drapery, so the long flexible chain can draw all of slide matter **3s** and keep the drapery waved or pleated.

[0023] Another embodiment of the invention is comprised of some solid rhombohedra **10s** and some buckle **11s**. There is a small hole separately at every end of rhombohedron **10**. The buckle **11** may go through the small holes to connect many rhombohedra **10s** to a chain. (i.e. long flexible matter **5**) At the expected interval some of buckle **11s** should be linked to slide matter **3s** as linkup **6s**. (see **FIG. 5**)

[0024] For the third embodiment of the invention, long flexible matter **5** is a textile rope **12**, and linkup **6s** may be some tie **13s** here. We can tie the textile rope to slide matter **3s** of the drapery with tie **13s** at the interval expected. (See **FIG. 6**)

[0025] An embodiment of linkup **6** is the keyring. Almost every people are familiar with the keyring. It is such a ring that a spring wire is circled into two circles. **FIG. 7** shows two forms that two circles of the keyring overlap and are pulled away.

[0026] Another embodiment of linkup **6** is the buckle. **FIG. 8** shows the structure of the buckle. The buckle is made of elastic material. It is a small open loop, and its opening is closed by elasticity of the material, and it can be opened as long as we press an end of the loop.

[0027] Operation of the Invention

[0028] As state above, generally, the drapery is comprised of fabric **1**, hook **2s**, slide matter **3s** and rod **4**. After we have installed rod **4** and slide matter **3s**, we should calculate the interval between slide matter **3s** (i.e. the interval between linkup **6s**) according to number of slide matter **3s** and the width of the drapery, i.e. length of rod **4**. Next, fix one linkup **6** between the first ball and the second ball at the end of long flexible matter **5**, and then fix other linkup **6s** at the interval in order along long flexible matter **5**. Link every linkup **6** with corresponding slide matter **3** in order from the side to the center, and finally keep the surplus long flexible matter **5** free drooping. (See **FIG. 3**) Now hang fabric **1** into slide matter **3s**. First you should take the measure of fabric **1**, and then share out fabric **1** along its wider according to the number of slide matter **3s**, and finally hang fabric **1** at its shared points into every corresponding slide matter **3s** with hook **2s**. Now the wider fabric between slide matter **3s** should not be become plane when we draw-close the drapery, but make and keep the natural waved pleats.

I claim:

1. A drapery comprising a fabric, slide matters, a rod, and means for making and keeping natural waved pleats for said fabric, and said means performs its task by the connection with the other parts of the drapery.

2. A part of a drapery for making and keeping waved pleats for said drapery, comprising:

- a) a long flexible matter, and
- b) some linkups, and
- c) said linkups to be able to be fixed at any position of said long flexible matter and to join said long flexible matter with the other parts of said drapery for making and keeping the waved pleats for said drapery.

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