April 13, 1926. 1,580,824

G. GOTHIER

CLOTHESPIN

Filed May 4, 1925

Fig. 4.

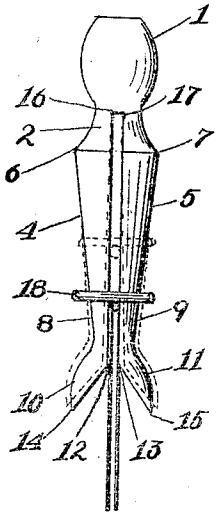


Fig. 1

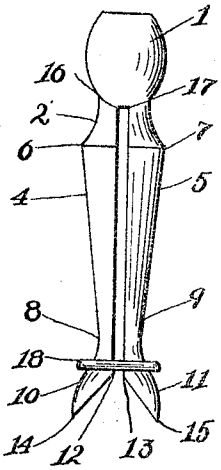


Fig. 2.

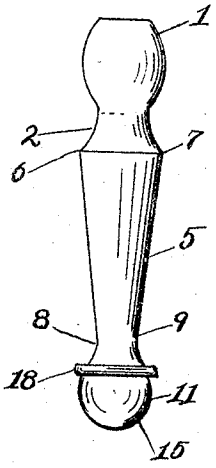
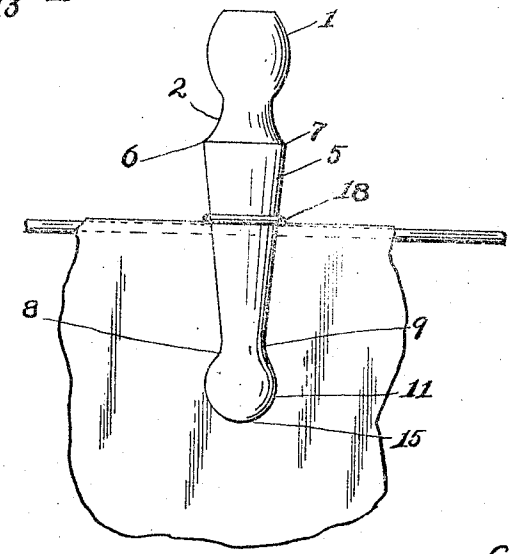


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CLOTHESPIN.

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To all whom it may concern:

Be it known that I, GEORGE GOTHIER, citizen of the United States, residing at 209 E. 63rd Street, Los Angeles, in the county of Los Angeles and State of California, have here invented a new and useful Clothespin, of which the following is a specification.

My invention relates to an improvement in clothespins of the solid wood type, having a slot or kerf therein and utilizing a ring slidable on the outside of the pin.

An object of my invention is a clothespin formed preferably of wood, in one piece, with a slot or kerf of considerable length forming two legs on each side of the kerf, the kerf being designed to receive a clothes line with the clothes thereon and a ring encircling the pin adapted to be thrust from the lower portion of the pin to an upper portion when the pin is pressed downwardly over a clothes line, the ring wedging on the upper part of the legs.

A feature of my invention is the prevention of spreading of the wooden pin by means of the ring and after the insertion of the pin over a clothes line thrusts the ring upwardly, this action wedging the legs tightly against the clothes line and the clothes, thus holding them firmly in place and allowing this operation to be done with one hand, the other hand may therefore be employed for other purposes such as holding the clothes on the line or handling other pins.

A further feature of my invention is that when the pin is pulled off the line, for instance, vertically upwardly, the ring drops downwardly out of engagement with the upper portion of the pin, being retained by toe portions from falling completely off the pin. Therefore it is not necessary to manually manipulate the ring to release the clothes and line from the pin or after removal of the clothes from the pin to release the ring.

My ring is constructed with a head portion which forms a hand grip, the kerf or slot above mentioned being formed by a cut extending substantially to the head portion. The end of the pin towards the head is of larger diameter than the ring and the opposite end of the pin is formed with feet portions extending outwardly from the kerf having tips which may be termed as forming toes, preventing the ring from falling off the pin. The ring is inserted over the pin by compressing the feet portions together and bending the toe portions downwardly sufficiently to pass the ring thereover, after which the ring for all practical purposes is secured on the pin so that it is not removable in ordinary use.

My invention will be more readily understood from the following description and drawings, in which:

Figure 1 is an elevation of my pin looking through the kerf or slot.

Fig. 2 is a view at right angles to Fig. 1.

Fig. 3 is a view similar to Fig. 2, with the pin secured to a clothes line having clothes thereover.

Fig. 4 is a view similar to Fig. 1, indicating the action of the ring in the removal of the clothes and line from the kerf.

For simplicity of description the pin is described as being in a vertical position which would be the usual position on a clothes line and the pin would be inserted and withdrawn usually by a vertical motion. The upper finger grip portion is designated as a head 1, the reduced portion immediately below as a neck 2.

A body portion 3 is below the neck and is divided into two legs 4 and 5 by the kerf or slot which may be cut in the ordinary manner. The wider portions 6 and 7 are designated the shoulders. The body portion tapers gradually from the shoulders down to narrow portions of the legs designated as ankles 8 and 9. Foot portions 10 and 11 extend outwardly from the ankle portions having heels 12 and 13 forming the lower portion of the kerf. The foot portions taper rapidly outwardly to toes 14 and 15. The upper end of the kerf terminates in what may be designated as a crotch 16 and 17 adjacent the neck portion 2. A ring 18 is slidably mounted on the pin and completes the operative structure except that the various sloping portions should be made to conform to the following requisites:

The ring is inserted over the feet by press-

ing these together until the heels contact and then pressing inwardly on the toes which causes the leg portions to curve outwardly on account of the small ankle section, so that the ring may be inserted over the toes and feet portions. Thus when the legs resume their normal position the ring is prevented from falling off the lower end of the pin by the feet and is prevented by the shoulders 6 and 7 from passing over the head of the pin.

The kerf between the two legs may be made in any suitable manner and in accordance with the ordinary manner of manufacture, by forming a saw kerf would have parallel sides. It is to be noted that the bottom of the feet sections extend outwardly from the heel portions, thus forming guide surfaces in fitting the pin on the clothes line. It is desirable however, that the kerf should be of slightly lesser width than the diameter of the ordinary clothes line. Leg portions 4 and 5 are tapered so that when the ring is forced upwardly it will grip on the leg portions and will be readily dislodged therefrom.

The manner of using my clothes pin is substantially as follows, being illustrated particularly in Figs. 3 and 4:

When the pin is inserted over a clothes line having clothes thereon, the feet portions guide the pin so that the line with the clothes passes upwardly in the kerf. This action spreads the legs slightly apart as indicated by the dotted lines in Fig. 4. This springiness is facilitated by the neck portion 2 being contracted so that there is a comparatively thin section adjacent the crotch portions 16 and 17. The line engages the ring 18 and elevates this while the pin is being depressed until the ring wedges on the leg portions 4 and 5. Continued downward pressure causes the tight wedging of the ring on the legs of the pin and securely clamps the clothes and clothes line. The ring therefore functions to prevent splitting of the pin at the crotch, neck and head portions by preventing further spreading apart or expanding of the legs.

In removing the clothes pin upwardly, as the clothes and line move relatively downwardly, the legs which have been spread apart as indicated by the dotted line of Fig. 4, will naturally move into their original position as shown in full lines and as the external diameter where the ring has gripped the legs is thus reduced slightly the ring is freed from its wedging engagement therewith and will be lowered as the line is withdrawn from the kerf as indicated in Fig. 4 until it occupies the position shown in Figs. 1 and 2, when the clothes are completely removed.

It will therefore be seen that in the normal use of my clothes-pin that only one hand is necessary to place the pin on a line and wedge it thereon with one action, that is one motion in a downward direction, and also that a single motion in an upper direction disengages the pin from the line and the clothes and at the same time allows the ring to drop into its lowermost portion ready for use on another occasion. Hence it is not necessary even after the clothes are withdrawn, to loosen the ring from its wedging action on the legs of the pin. However, if the pin is removed from the line in some other direction than vertical and the ring should stick on the leg portions, it can readily be snapped downwardly to the position shown in Figs. 1 and 2 by a throwing motion, holding the head or by tapping the feet against a stationary object.

It will be noted by an inspection of the drawings that the toes 14 and 15 of the pin are naturally spaced wider apart than the interior diameter of the ring 18, and moreover, that when the pin is compressed with the heels in contact the toes are still wider than the internal diameter of the ring. I form the pin of such shape so that the ring cannot fall off the feet portions nor be pressed upwardly above the shoulders. Therefore when once placed on the pin it must be forcibly removed and will not fall off in the ordinary use.

In placing the ring on the pin I press the toes inwardly until the heels contact and while still pressing the toes inwardly I expand the slot at a position about two thirds of the way up. This causes the ankle portions and the leg portions to bend or bow outwardly, allowing the toes to swivel inwardly slightly so that the ring may be forced over the toes and over the feet portions. Therefore, when the pin assumes its natural position the ring naturally rests on the foot portions below the ankle sections. When a line with clothes thereon is pressed upwardly the legs are spread apart and the ring is lifted. This action continues until the ring wedges on the outside surface of the leg portions of the pin and thus holds the clothes in firm position on the line and the pin tightly clamping the line and the clothes.

When the clothes are removed by pulling the pin upwardly by the head, the legs naturally spring inwardly to their normal position, thereby unclamping the ring from the outside of the legs which naturally falls to the position shown in Fig. 1.

It is desirable to have the ring of a fairly substantial weight so that the force of gravity will loosen the weight immediately the pin is pulled upwardly by the head, in which case the ring follows the clothes downwardly while the pin is drawn up off the line.

Therefore, it will be seen that with my

construction of clothes pin only one hand is required when placing the pin on the line, clamping the clothes and on removing the pin, as the ring naturally falls to its lowermost position it does not have to be adjusted afterwards.

I claim as new and useful:

1. A clothes pin having a body portion with a single central kerf dividing the pin into portions having two legs, said pin having shoulders adjacent the upper portion thereof, the legs being gradually tapered downwardly and having contracted ankles at the lower end of the taper, feet at the base of the legs having toe portions pointed outwardly with a gradual taper from the ankle to the toe portions, a ring mounted on the bottom of the pin, said pin being of smaller diameter than the toe portions when spread apart and of smaller diameter than the shoulder portions, the ring being adapted to wedge on the outwise of the legs when a clothes line with clothes thereon is placed upwardly in the kerf of the pin.

2. A clothes pin formed of a body structure having a single central kerf adapted to engage a clothes line and to hold clothes in the kerf, the body structure having a portion of considerable diameter adjacent the upper end and being gradually tapered downwardly, a ring mounted on the body, the ring being of lesser diameter than the upper portion of the pin, means at the lower end of the body to retain the ring from dropping off, the kerf extending upwardly into the body portion of large diameter, the outside of the body being tapered downwardly to a relatively small portion adjacent the lower end, the ring being adapted to slide upwardly on the body portion when clothes and a clothes line are pressed upwardly in the kerf, the ring being adapted to wedge on the upper portion of the body preventing widening of the kerf and the kerf being adapted when the clothes and clothes line are withdrawn to become narrower to a sufficient extent to free the ring from the body, allowing the ring to drop without direct manual actuation of the ring.

3. A clothes pin having a body structure with a single longitudinal slot therein, said slot dividing the body into a pair of legs, the legs having a gradual taper downward, a ring mounted on the legs, means at the lower end of the legs to prevent the ring from falling off, the upper portion of the legs being of larger diameter than the ring, the legs being formed with a gradual substantially straight taper, whereby when a clothes line with clothes thereon is pressed upwardly in the slot the ring will be elevated until the spreading of the legs causes the ring to bind on the outside of the legs and whereby on removal of the clothes the legs spring inwardly, thereby freeing the ring from the outside of the legs and allowing the ring to drop.

4. A clothes pin having a solid head portion, a body portion below the head, connected by a reduced neck section, a single longitudinal slot in the body portion dividing said portion into two legs, a ring slidably mounted on the legs, the body portion having shoulders adjacent the neck portion of larger diameter than the ring, the legs having spread apart feet at the lower end, said feet being adapted when the slot is of its normal width to prevent the ring from falling off, the legs having a gradual taper downwardly, said taper being proportioned whereby when clothes are introduced between the feet and pressed upwardly in the slot, raising the ring, the slot is widened and the legs slightly spread apart, the ring wedging against the outside of the legs and whereby when the clothes are pulled out of the slot and between the feet the legs spring inwardly, leaving the slot in its normal position and allowing the ring to drop.

5. A clothes pin having a body structure with a single longitudinal kerf, a ring slidably mounted on the body portion, a structure at the upper and lower ends of the pin to prevent the ring from falling off, the pin having a gradual taper downwardly from the structure at the upper end which prevents the ring from falling off to a portion considerably smaller than the structure at the lower end which prevents the ring from falling off, the taper being such that the pressing of clothes upwardly in the slot raises the ring, the kerf being expanded and the outer surface of the pin being expanded until the ring engages the pin, the wedging action of the ring on the upper portion of the pin firmly holding the clothes in the kerf.

6. A clothes pin comprising a body portion having a longitudinal single slot forming a pair of legs, the upper portion of the body having a shoulder section of considerable diameter, the legs having ankle sections of much smaller diameter and having outwardly extending feet sections at the lower end of the leg sections, the feet sections having heel portions forming the lowermost points of the said slot and having outwardly tapered surfaces to toe portions spaced widely apart, a ring mounted on the leg portions of the pin, said ring having a lesser internal diameter than the shoulder portions and than the toe portions when the legs are pressed together with the heel portions in contact.

7. A clothes pin having a body portion with a reduced neck near the upper end, shoulders below the neck of greater diameter than the neck, a gradually tapered portion extending downwardly from the shoulders, a single central kerf extending upwardly through the body of the pin to substantial-

ly the neck portion, a ring on the pin of less diameter than the shoulder portion, means at the lower end of the pin to prevent the ring from falling off, the structure of the pin between the kerf and the outside of the neck being such as to allow a movement of the opposite sides of the body from the neck portion on the widening of the kerf in pressing clothes therein and the taper from the shoulders downwardly being adapted to engage the ring on the movement of the ring when clothes are pressed in the kerf from the lower end.

GEORGE GOTHIER.