

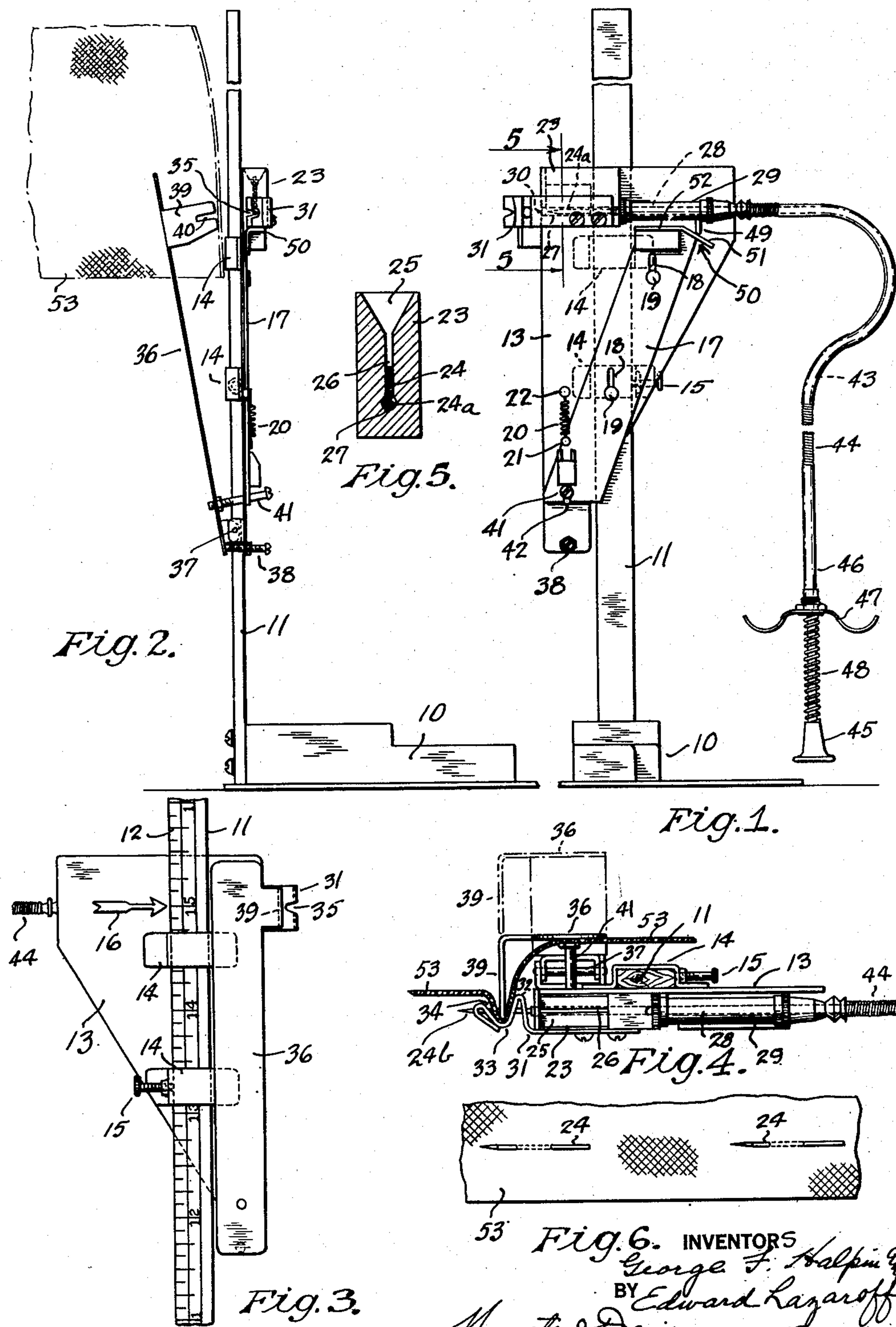
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G. F. HALPIN ET AL

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MECHANICAL HEM MARKER

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INVENTORS
George F. Halpin &
BY Edward Lazaroff
Mooster & Davis ATTORNEYS

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MECHANICAL HEM MARKER

George F. Halpin and Edward Lazaroff, New Haven, Conn.; said Lazaroff assignor of one-fourth to Irving Lazaroff, New Haven, Conn.

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This invention relates to a device for marking the hemline on various garments, such, for example, as ladies' skirts, coats, or any other garment to which it is adapted, being hung or fitted, so that it will be of even length all around, and has for an object to provide a simple and improved device whereby at any given points around the skirt a series of pins may be inserted, all at an equal height from the floor to indicate the hemline.

Another object is to provide a device of this character by means of which a fold is formed in the skirt and the pin inserted in this fold by a simple and single operation.

Although it is described in the following description in connection with skirts, it will be understood it may be used for marking any garment for which it is adapted.

With the foregoing and other objects in view, we have devised the construction illustrated in the accompanying drawing forming a part of this specification. It is, however, to be understood the invention is not limited to the specific details of construction and arrangement shown, but may embody various changes and modifications within the scope of the invention.

In this drawing:

Fig. 1 is a front view of the device;

Fig. 2 is a side view looking from the left of Fig. 1;

Fig. 3 is a rear view of the pin-setting device;

Fig. 4 is a top plan view thereof showing the parts in position for forming a fold in the skirt and inserting the pin in this fold;

Fig. 5 is a detail vertical section on an enlarged scale through the pin-feeding hopper taken substantially on line 5—5 of Fig. 1, and

Fig. 6 is a face view of a portion of a skirt showing pins applied thereto.

The device comprises a base 10 and an upright bar or stick 11 which preferably has a measuring scale 12 on the rear side thereof. Mounted for vertical adjustment on this bar is a device for setting pins in a lady's dress or suit skirt at a given height from the floor, so that the skirt can be hemmed all around at a uniform length or height from the floor. This device comprises a supporting member 13, in the present case a plate formed of sheet metal secured on the bar 11 by means of generally U-shaped straps 14 embracing the bar so that the device can be adjusted up and down on the bar, and secured in adjusted positions by a clamping screw 15 in one of the straps. The height may be determined and set for any given length of skirt by means of a pointer 16 or any other mark on the back of the plate 13 by the side of the scale 12. Mounted on the front of

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the plate 13 is a vertically slidable member or slide 17 held for up and down sliding movement by vertical slots 18 in this slide and headed studs 19 extending through these slots and secured to the plate 13. This slide 17 is normally held in its upper position by a spring 20 secured at one end, as at 21, to the slide and at its other end 22 to the plate 13.

Mounted at the upper front side of the plate 13 is a reservoir and feed hopper 23 for pins 24, which are preferably headless pins, the top of this holder or hopper having a tapered or V-shaped recess 25 with a feed or guide slot or passage 26 leading to a passage 27 to which the pins drop one by one and in succession through the guide passage 26, to a position in front of a longitudinally slidable plunger 28 in alignment with the passage 27, and mounted in a suitable guide housing 29 also mounted on the plate 13. The passage 27 and the plunger are slightly larger than the diameter of the pins and the width of the feed passage 26, as shown in Fig. 5, although this difference is exaggerated in the drawing, so as to prevent the plunger lifting out of the passage 27 into the feed passage 26; in other words, to retain the plunger in the passage 27 in alignment with the pin to be driven. The outer end of the block 23 is provided with an exit opening 30 in alignment with the passage 27 for exit of the pin being driven, and in front of this opening is a skirt-bending plate 31 secured to the front of the block 23. This plate projects from the left-hand edge of the block as shown in Figs. 1 and 4 and is bent to a reverse curve, as shown at 32 and 33 in Fig. 4, in front of the pin outlet opening 30 to provide a tapered or sort of V-shaped upright recess 34, and the opposite sides of this folded portion are slotted or recessed, as shown at 35 in Figs. 2 and 3, in front of the exit opening for the pins.

Mounted on the back of plate 13 is an upright lever or arm 36, in the present case a flat strip of metal pivoted at its lower end to the plate 13 at 37, and its backward movement is limited by an adjustable stop screw 38 threaded in the plate 13 and which is engaged by the lower end of the arm 36 to limit its backward movement as shown in Fig. 2. It is normally in a backwardly inclined position as shown in this figure, and at its upper end is provided with a laterally and forwardly extending flat lug or finger 39 provided with a notch 40 which, when the arm and finger are in their forward position with the front edge of this finger in the recess 34 of the guide 33, is in alignment with the pin outlet 30 and the notches 35. Extending forwardly from this arm or lever 36 above the hinge pivot 37 is a rod or screw 41

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passing through both plates 13 and 17, this screw being secured to the lever or arm 36. At the forward side of the plate 13 it extends through an upright elongated notch or slot 42 in the lower end of the slidable plate or slide 17, so that as this slide 17 is shifted downwardly the top edge of this slot or notch 42 will engage the rod or screw 41 and swing the upper end of the arm 36 and the finger 39 forwardly for a purpose presently to be described.

The plunger 28 is operated by a flexible wire 43 in a flexible spirally wound sheath 44 connected at its free end to an operating knob 45, this wire passing through a sleeve 46 mounted in a finger grip 47 secured to the end of the sheathing 44, and between this grip and the knob 45 wire 43 is surrounded by a coil spring 48. Projecting downwardly from the plunger 28, and through an elongated slot in the under side of the casing 29, is a pin 49 running on a cam plate 50 mounted on the top of the slide 17. This cam includes a downwardly inclined portion 51 and a straight horizontal portion 52 at the top of the inclined portion.

The operation is as follows: In operation, the plate 13 is set on the bar 11 at the desired height above the floor which may be determined by the scale 12 and the arrow 16. Then it is set against the skirt, indicated at 53, being fitted and as worn by the person for whom it is being measured so that its lower edge is between the reverse curve or backing element 31, 33 and the forward free edge of the lug or finger 39, as shown by the broken lines in Fig. 2. Then the operator presses the operating knob 45 inwardly, which may be done readily by means of the thumb against the end of this knob and with the finger grips 47 resting on the inside of the first and second fingers. This, through the flexible wire 43 shifts the plunger 28 to the left as viewed in Fig. 1. On the first movement of this plunger to the left it carries with it the pin 49 which by running on the inclined portion 51 of the cam forces the slide 17 downwardly. This forces the screw or pin 41 downwardly, swinging the upper end of the arm 36 forwardly about its hinge pivot 37. This swings the finger 39 forwardly against the cloth skirt 53 forcing it into the open side of the concave reverse bend 33, or that is into the tapered recess 34, as shown in Fig. 4, and thus folds the skirt around the free end edge of the lug or finger 39, as shown in this figure, and the fold is in alignment with the pin outlet opening 30. Then continued forward movement of the plunger 28 causes it to engage the pin 24a in the passage 27, the length and position of the plunger 28 being so determined that it does not engage this pin, or at least does not shift its point to the recess 34, until the lever arm 36 has been shifted forwardly to the position of Fig. 4 to form the fold in the skirt. Then as the plunger continues to move forwardly it forces this pin outwardly through the opening 30, passing it through the slots 35 and 40 and therefore through the opposite sides of the fold in the skirt, as it is folded about the edge of the finger 39. The pin is shown in this position in Fig. 4, and is indicated by the numeral 24b. During this latter movement of the plunger the pin 49, connected to this plunger rides on the horizontal portion 52 of the cam at the top of the slide 17 and thus retains the skirt-folding finger or lug 39 in this position.

As the operator then releases the knob 45, spring 48 retracts the wire 43 and the plunger 28

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so that the slide 17 is released and the arm 36 and the finger 39 swing back to the normal position of Fig. 2, releasing the skirt with the pin in it. Withdrawal of the plunger permits another pin to drop from the feed hopper 25 and the feed passage 26 to the passageway 27, and to a position in front of the plunger for another pin-setting operation. Now the girl wearing the skirt turns a short distance to bring a new portion of the skirt into position between the finger 39 and the reverse curve or backing member 33, or the whole device can be shifted on the floor to a new position while the girl remains stationary. The latter operation is preferred, as where the girl shifts she may change her position so as to change the position of the skirt, causing variation in the marking of the skirt. After the device or the skirt has been shifted to the new position, the device is again operated by means of the knob 45, as described, to set a new pin. If this operation is performed at intervals entirely around the skirt, a series of these pins is set at a uniform height above the floor entirely around the skirt forming a complete series of markings whereby the skirt can be made of a uniform length. Two of these pins set in the skirt are shown in Fig. 6. The magazine can be made to hold enough pins to completely mark one or more garments. With this feed and the plunger operation for setting the pins there is no individual handling of pins necessary.

These pin markers are a distinct advantage over the old method of marking with chalk or powder, as the chalk or powder rubs off, and the skirt may be folded and the pins easily set by a single operation of the plunger knob 45. That is, a single pressure of the plunger closes the folder, inserts a pin, and on release of pressure the folder automatically opens to release the fabric, the plunger returns to driving position and another pin automatically falls into driving position.

Having thus set forth the nature of our invention, we claim:

1. A hem marker comprising a base and an upright bar mounted thereon, a support, means mounting the support on the bar for adjustment along the bar and securing it in different adjusted positions, a forming means including a backing member mounted on the support provided with an upright recess, an arm pivoted to the support and carrying a finger provided with an upright free edge movable into the recess to form an upright fold in a skirt around the edge of said finger, a horizontal pin guide mounted on the support adjacent and at one side of said forming means, a plunger movable along the guide for inserting a pin horizontally through the upright fold while it is held in the forming means, and means mounted on the support for operating the folding arm to shift the free edge to folding position in the recess to form a fold and then shift the plunger to insert a pin through this fold.

2. A hem marker comprising a supporting base and an upright bar carried thereby, a support, means mounting the support on the bar for adjustment along the bar and securing it in different adjusted positions, a forming means on the support including a strip bent to form a tapered open sided upright recess, an arm pivoted to the support and carrying a finger provided with a free edge movable into said recess to form therein with an upright fold in a skirt around the edge of said finger, said strip being provided with aligned transverse recesses in the sides of said

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forming recess and the edge of the finger being provided with a recess which is in alignment with the other recesses when it is in the folding position, a horizontal pin guide mounted on the support in alignment with said recesses, a plunger movable along said guide to pass a pin horizontally through said recesses and the upright skirt fold in the folding means, and means on the support for operating the pivoted arm to make a fold in the skirt and then operate the plunger to insert a pin transversely through this fold.

3. A hem marker comprising a base and an upright bar mounted thereon, a support, means mounting the support on the bar for adjustment along the bar and securing it in different adjusted positions, a forming means mounted on the support including a member provided with an upright open recess and a movable member having an upright free edge movable into the recess to form an upright fold in a skirt about said edge, a horizontal pin guide at one side of said forming means, a feed reservoir for headless pins including a feed guideway for the pins leading from the reservoir to said pin guide, a plunger movable along said pin guide to feed a pin horizontally therein point forward and insert it transversely through the fold in the skirt while it is in the forming means, and means for operating the folding means to form a fold in the skirt and then operate the plunger to insert a pin transversely through this fold.

4. A hem marker comprising a base and an upright bar mounted thereon, a support, means mounting the support for vertical adjustment on the bar and securing it in adjusted positions, a folding means for a fabric garment including a backing member mounted on the support and provided with an upright open sided recess, an upright arm pivoted to the support, a forwardly projecting upright finger on the arm located to move into the recess in the backing member to fold the fabric into an upright fold in the recess about the edge of said finger, means mounted on the support for inserting a pin horizontally and transversely in the folded fabric while it is held in said recess including a horizontal guide passage adjacent the backing member, a plunger movable along said passage to insert the pin, a slide on the support, means connecting the slide with the pivoted arm for operating this arm, a cam means mounted on the support and connected with the plunger for operating the slide, and means on the support for operating the plunger.

5. A hem marker comprising a base and an upright bar mounted thereon, a support, means mounting the support for vertical adjustment on the bar and securing it in adjusted positions, a folding means for a fabric garment including a recessed backing member mounted on the support, an upright arm pivotally mounted on the support, a folder mounted on the arm including a member provided with an upright edge movable into the recess in the backing member to fold the fabric about said edge, a reservoir for a plurality of headless pins mounted on the support, means mounted on the support for feeding independent pins from the reservoir and inserting them in the fabric folded about said edge, a manually operated flexible operating means for the pin feeding and inserting means, and a connection between the pin feeding and inserting means and the pivoted arm mounted on the support for shifting the folder to folding position.

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6. A hem marker comprising a stationary base forming a support, an upright bar carried and supported solely by and extending upwardly from said base, a device for setting marking pins in a lady's dress comprising a supporting member, guide means mounting said member for vertical adjustment on the bar, means for securing the supporting member in different adjusted positions on the bar, folding means mounted on the supporting member comprising relatively movable jaw members including upright shaping means to engage opposite sides of a skirt between them for forming a series of laterally spaced upright folds in the skirt, a holder provided with a reservoir for a plurality of loose pins mounted on the supporting member at one side of the folding means, means mounted on the supporting member to transfer individual pins one at a time from said holder and insert it horizontally and transversely through a fold in the folding means, and manually operated means on the supporting member connected to the folding means and the pin transferring and inserting means and arranged to operate them in succession to form and retain the series of laterally spaced folds about the skirt and thus locate a series of pins at a given level about the skirt.

7. A hem marker comprising a stationary base forming a support, an upright bar carried and supported solely thereon, a device mounted on and carried by said bar for forming a series of laterally spaced upright folds in a cloth skirt and inserting a pin transversely in each fold comprising a supporting member, guide means mounting the supporting member for adjustment along the bar and means for securing it in different adjusted positions, a backing member mounted on the said supporting member provided with an upright recess, a movable member mounted on the supporting member including an upright finger movable into the recess on the backing member to fold a skirt over the edge of said finger and form an upright fold in the skirt, a guide means for a pin mounted on the supporting member adjacent the backing member, a reservoir for a plurality of loose pins mounted on the supporting member and provided with a passage for carrying individual pins from the reservoir to the guide means, a horizontally movable plunger in said pin guiding means for inserting a pin horizontally through the upright fold in the skirt while it is held in the backing member by the finger, and manually operated means mounted on the supporting member for operating the movable member to form a fold in the skirt and then operate the plunger to insert a pin through this fold.

GEORGE F. HALPIN.
EDWARD LAZAROFF.

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