

Oct. 4, 1960

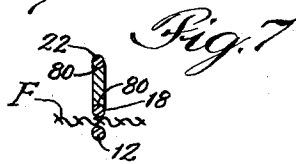
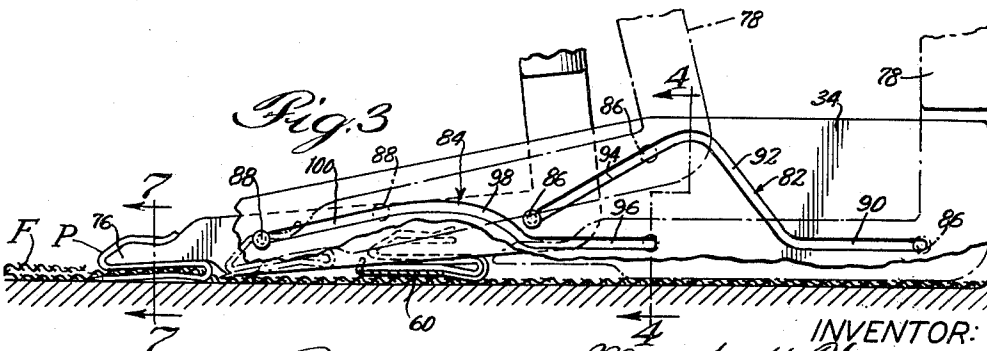
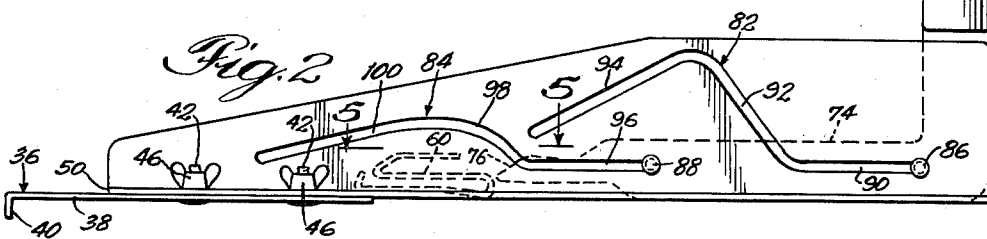
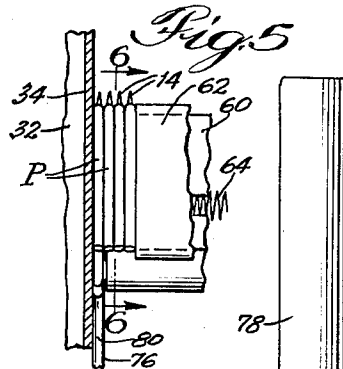
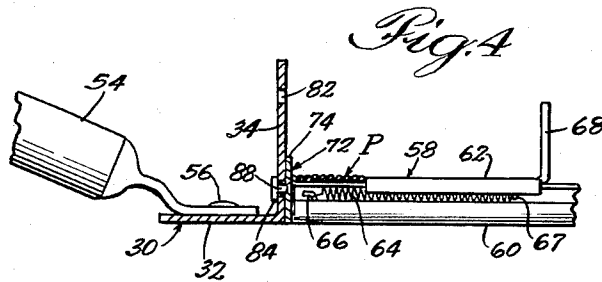
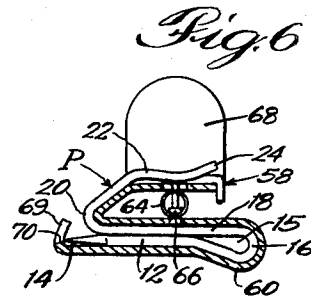
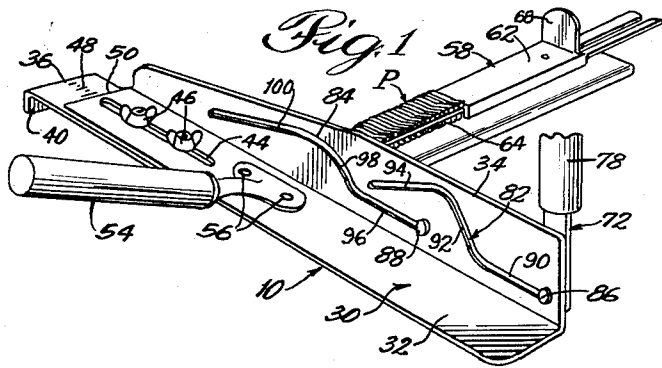
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2,954,560

DRAPERY PIN DISPENSER

Filed March 9, 1959

2 Sheets-Sheet 1



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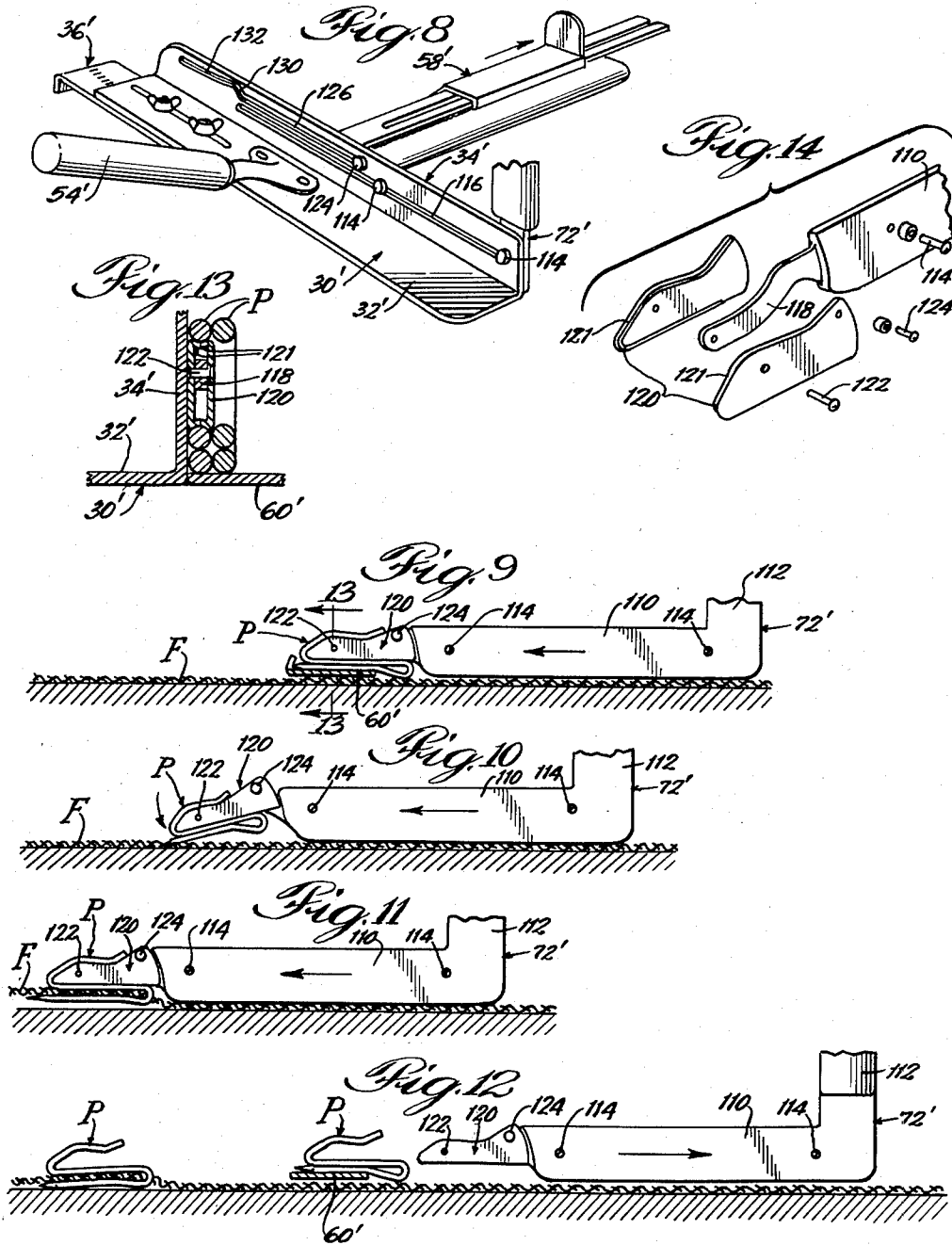
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DRAPERY PIN DISPENSER

Filed March 9, 1959

2 Sheets-Sheet 2



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2,954,560

DRAPERY PIN DISPENSER

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6 Claims. (Cl. 1-46)

This invention relates to a drapery pin dispenser and more particularly to a dispenser for automatically feeding and inserting drapery pins in draperies.

In the art of hanging pin-supported draperies, it is still the accepted practice of manually measuring from the top edge of the draperies to the point where the drapery pin is to be inserted and then manually inserting the drapery pins into the drapery prior to hanging the drapery from the hangers therefor. This accepted practice is, of course, both time-consuming and expensive. Furthermore, the manual insertion of drapery pins is very fatiguing to employees, and results in limited productivity therefrom.

The principal object of this invention is to provide a novel tool for automatically inserting drapery pins in draperies.

Another object of this invention is to provide a drapery pin inserting tool with automatic feed means and with a locating gauge, thereby providing a combination tool that is useful both in increasing productivity and in reducing labor costs.

A further object of this invention is to provide a drapery pin inserting tool whose use will to a great extent obviate the deficiencies hereinabove noted and which will provide simple but inexpensive means for performing the task of inserting drapery pins in draperies.

Still another object of this invention is to provide a drapery pin inserting tool which approximates the present preferred manual manner of inserting drapery pins into draperies, thereby providing a first portion of a pin inserting action wherein the movement of the drapery pin is used to pierce the drapery material to a desired depth and then the drapery pin is straightened out to move substantially parallel to the plane of the drapery material to effect insertion of the drapery material into the drapery gripping recess of the drapery pin.

Further objects and advantages of this invention will become apparent as the following description proceeds and the features of novelty which characterize this invention will be pointed out with particularity in the claims annexed to and forming part of this specification.

A preferred embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 is a perspective view illustrating the novel tool of this invention.

Figure 2 is an enlarged side elevation view of the device of Figure 1 taken looking from the left of Figure 1, and with the tool handle omitted and with the feed handle in retracted position.

Figure 3 is a view similar to Figure 2 but with parts broken away to show the relationship of certain parts not seen in Figure 2, and Figure 3 also shows in broken-line illustrations certain relative positions of the feed handle during the course of travel of the feed handle during a pin inserting operation.

Figure 4 is a cross-section view taken substantially on line 4-4 of Figure 3.

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Figure 5 is a cross-section view taken on line 5-5 of Figure 2.

Figure 6 is a cross-section view of the drapery pin storage magazine and is taken on line 6-6 of Figure 5.

Figure 7 is a cross-section view illustrating the relation of the drapery pin to the drapery material into which the pin is being inserted, and is taken on line 7-7 of Figure 3.

Figure 8 is a view similar to Figure 1 and illustrates a modified form of drapery pin inserting tool.

Figures 9, 10, 11, and 12 are illustrations of the drapery inserting element of the device of Figure 8, and showing in Figure 9 the position of parts when a drapery pin is first picked up by the inserting element, and showing in Figure 10 the position of parts when the pin begins being inserted into the drapery material, and showing in Figure 11 the parts with the drapery pin fully inserted, and showing in Figure 12 the parts with the inserting element at its fully retracted position preparatory to engaging and inserting another drapery pin.

Figure 13 is an enlarged cross-section view taken on line 13-13 of Figure 9.

Figure 14 is an exploded perspective view of the construction features shown in Figures 9 to 13.

Referring now to the drawings, there is illustrated in Figure 1 a drapery pin dispenser generally indicated at 10 which embodies the invention herein disclosed. Before proceeding with a description of the details of the drapery pin dispenser 10, it is well to consider the construction of the drapery pins which are intended to be used with the dispenser 10.

The drapery pins P which are used are formed from wire stock and are best shown in Figures 3, 5 and 6, and, as can be best seen in Figures 3 and 6, the shape of the wire pin P is a somewhat distorted S shape defining a lowermost lateral segment 12 having a piercing point 14 at one end and being bent to form a material-receiving enlargement 15 adjacent the bight 16 which connects to a central lateral segment 18, a portion of which is formed to be closely adjacent to, or abutting against, the upper side of lower segment 12, so as to provide a grip between segments 12 and 18 for gripping fabric material F therebetween. The central segment 18 extends from bight 16 to bight 20 and the pin then defines an uppermost lateral segment 22 which serves as a hanger inserting finger having an upwardly, or outwardly, flared terminus 24. The uppermost segment 22 is spaced a considerable distance from the central segment 18, as contrasted with the fact that portions of the central segment 18 and lower segment 12 are closely adjacent or in abutment with each other. In effect, the segments 12 and 18 define a material-receiving slot or opening which opens to the left, as seen in Figure 6, and the pin segments 22 and 18 are spaced relatively far apart and bound a rather large opening which opens to the right, as seen in Figure 6. If it is considered that the piercing point 14 is at the forward, or leading, end of the pin P then it can be said that the opening between pin segments 18 and 22 open rearwardly of the pin P, and this feature is taken advantage of in the practice of the invention disclosed herein.

Now, in the use of the drapery pins P, as shown and hereinabove disclosed, the usual manual procedure is to grip the pin segment 22 and thrust forwardly with the piercing point 14 to pierce the material of a fabric F and, after piercing has been effected, the pin P is manually moved substantially parallel to fabric F so as to cause a portion of the fabric F to pass between the pin segments 12 and 18, and a portion of the fabric is gathered in the relatively large recess 15 defined by the bight 16, and another portion of the fabric is gripped between the adjacent pin segments 12 and 18, to frictionally maintain the

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pin P in position on the drapery fabric F. It is the purpose of the instant pin dispenser 10 to duplicate the piercing and attaching operation described.

Turning now to the device itself, the dispenser 10 includes an elongated frame 30 which is formed of sheet metal or the like, and which defines a horizontal leg 32 and a vertical leg 34. The horizontal leg 32 carries thereon, at the forward end thereof, a gauge means generally indicated at 36. The gauge means 36 includes an extension leg 38 which telescopes with respect to leg 32, and the gauge means 36 further includes a downturned lip or flange 40 at the forward end of extension leg 38. Extension leg 38 carries a pair of bolts 42 which extend through a slot 44 formed in horizontal leg 32, and a pair of thumb nuts 46 on bolts 42 provide means for selectively releasing or clamping the gauge means 36 at a selected position on the frame 30. The upper surface of leg 38 of the gauge means may be provided with dimension markings 48 thereon which cooperate with the forward terminal edge 50 of the leg 32, to provide a gauge reading which tells the operator the distance at which the pins are to be inserted by the device with respect to a reference point or line on the drapery material, when the lip 40 of the gauge means is held adjacent said reference point. In practice, the lip 40 is normally aligned with the upper edge of the drapery material and the length of lip 40 provides allowance for the upper edge of the drapery material to abut against the inner side of lip 40, thereby measuring the point of pin insertion from the upper edge of the drapery, as is presently the practice in the industry.

The frame 10 is provided with a laterally extending handle means 54 which is secured by any appropriate means, such as by welding, or by rivets 56, to the leg 32 of frame 30.

The pin dispenser also provides storage means for storing therein a plurality of pins P so that the pins P may be fed automatically into a position from whence they may be dispensed, as the device is being operated. The storage means for the pins P is best seen in Figures 1 and 4 to 6, and is generally indicated at 58. The storage means 58 includes a shaped frame 60, the shape of which is best seen in Figure 6. The shape of frame 60 is coordinated with the distorted S shape of the pins P so as to define a slotted storage cartridge within which the pins P may be stored in side-by-side relation, as can be seen in Figure 5. The frame 60 is open-ended at its extended end and the plurality of pins P may be fed into the frame 60 until a desired number is stored therein. The storage means also includes a pin follower 62 which is carried on frame 60 and which engages the outermost one of the set of pins P. Spring means, including a coil spring 64, are provided for causing the pin follower 62 to press against the set of pins P and to feed pins P to the dispensing means hereinafter described. The spring 64 is connected at its innermost end with a hook 66 formed on frame 60, and the hook 66 is spaced from the frame 30 to provide room for movement of the pin dispensing means hereinafter described. The other end of the spring 64 is connected to hook 67 carried on pin follower 62. The pin follower 62 has a manually engageable flange 68 which provides convenient means for manipulating the follower 62 in exposing the extended end of frame 60 to permit of refilling with more drapery pins, as needed.

In addition to the frame 60 being shaped to accommodate the pins P, the forward edge of frame 60 is provided along almost its entire length with a longitudinal upstanding flange 69 which is of a size adapted to engage and restrain the pointed tips 14 of the drapery pins P which are stored in the storage means 58. However, at a point immediately adjacent the upstanding leg 34 of the frame 30, the flange 69 is recessed at 70 to eliminate any obstruction to the movement of the single pin P which is to be dispensed by the dispensing means hereinafter described. The storage means 58 may be secured to the

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frame 30 in any appropriate manner, such as by means of welding, or by being riveted or bolted to the underside of leg 32 of frame 30.

It will be noted that while in the device thus far described there are provided handle means 54 separate and apart from the pin storage means 58, it is within the scope of this disclosure to omit the handle means 54 and utilize the frame 60 of storage means 58 as a combination handle and storage cartridge. When the storage means 58 are also used as a handle, then it is understood that the feed means, including pin follower 62, is also included in the handle.

There is also provided in the pin dispensing device 10 a pin dispensing and inserting means, which is generally indicated at 72. The pin dispensing and inserting means includes a horizontal member 74 having forwardly extending shaped tongue 76, and an upstanding, actuating leg 78 serving as a manual control for selected actuation of the pin dispensing and inserting means 72. The tongue 76 is of reduced size relative to member 74 and is particularly shaped to fit into the rearwardly opening recess of pin P defined between pin segments 22 and 18, so that the pin P that is being dispensed by the device is carried by and accurately controlled by the tongue 76, as can best be seen in Figure 3. The thickness of member 74 and of tongue 76 is in the same order as the size of wire of pin P, as can be seen in Figures 5 and 7, so that actuation of pin dispensing means 72 operates only to discharge the single pin which is in position to be discharged past flange recess 70. To assist the tongue in its cooperation with pin P, the edges of tongue 76 are preferably arcuate in form, as shown at 80, to receive the circularly contoured segments of pin P.

The vertical leg 34 of the frame 30 is provided with a pair of traverses, or tracks, 82 and 84. In the instant invention, the traverses or tracks are merely shaped, or contoured, slots which are punched through the material of leg 34. The horizontal member 74 of the pin dispensing and inserting means 72 carries a pair of headed pins 86 and 88, the stems of which are arranged for movement in the slot traverses 82 and 84. The heads on pins 86 and 88 cooperate with one side of the vertical leg 34 to maintain the member 74 in snug, but slidable relation with the opposite side of vertical leg 34, as can best be seen in Figure 4.

The rearmost slot traverse 82 is provided with a horizontal portion 90, a relatively sharply upturned portion 92, and a more gradual downwardly sloping portion 94. The slot traverse 84 is provided with a horizontal run 96, a relatively gradual upward sweep portion 98, and a gradually downward sloping portion 100. The combination of the shapes of the traverses 82 and 84, together with the fact that horizontal member 74 is guided in its movement longitudinally of frame 30 by movement of pins 86 and 88 along said traverses, operates to cause the pin dispensing means 72 to pass through varying attitudes with respect to the horizontal, as can be seen, for example, in Figure 3, wherein the right-hand dot-dash-line illustration shows how the pin P carried by tongue 76 is sharply inclined downwardly to effect a piercing movement by the pin P relative to a fabric F, and the left-hand dot-dash-line illustration shows a later stage when the pin P is straightened out for further movement longitudinally of the fabric F to effect the proper mounting of the pin P on the fabric F. The sharper upward slope of traverse 82, as contrasted with traverse 84, swings the pin 86 above pin 88 and brings about the attitude which provides for piercing action by pin P, and thereafter the straightening out of the traverses yields the desired mounting movement of the pin P relative to the fabric F.

The length of the member 74 is such that when the pin dispensing and inserting means 72 is retracted to its furthestmost retracted position, as seen in Figures 1 and 2, then the forward terminus of tongue 76 is spaced rear-

wardly of the pins P in the storage means 58, thereby permitting the next pin in the storage means to be moved into dispensing position, from whence it will be dispensed by the next movement of the pin dispensing means 72 along the traverses 82 and 84. When the pin dispensing means 72 is in its forward actuated position, the first of the set of pins P abuts one side of member 74, thereby preventing the pins from moving to said dispensing position from whence the next pin may be dispensed, but when the member 74 is in retracted position, then the pins do advance into pin dispensing position.

It will be understood from the foregoing that the pin storage means, pin feeding means, and vertical abutment leg 34 of frame 30 cooperate to define together a pin locating means which receives and positions a drapery pin for engagement by the pin dispensing and inserting means 72. Furthermore, it will be seen that the drapery pin being dispensed is located at a point along said frame intermediate the ends of the range of movement of said dispensing means 72 along its preselected traverse.

In the modified form shown in Figures 8 to 14, there is shown a frame means 30', a handle 54', storage means 58', and gauge means 36', all of which correspond generally with the similar elements shown in Figures 1 to 7. The variations in the modified form of Figure 8 over that shown in Figures 1 to 7 lie in the pin dispensing and inserting means and in the traverses which govern the action of the pin dispensing and inserting means.

In the modified form shown in Figures 8 to 14, the pin dispensing and inserting means, generally indicated at 72', include a horizontal leg 110 and a vertical manual control 112. The horizontal leg 110 carries a pair of headed pins 114 which are arranged to move along a simple straight-line, slot-type traverse 116 which is formed in the vertical leg 34' of frame 30'. The leg 110 has a forwardly extending, reduced-dimension, tongue mounting 118, and there is pivotally mounted on said tongue mounting 118 a tongue 120. The tongue 120, as best seen in Figures 13 and 14, is formed of two stamped parts which, when secured together, are of substantially the same thickness as the thickness of leg 110. The edges of the two stamped parts defining the tongue 120 are flanged at 121 and shaped so as to form a concaved edge on tongue 120 for receiving the round wire pins P, as can best be seen in Figure 13. The flanges 121 do not extend over the entire periphery of the stamped parts but terminate as seen in Figure 14 to permit of pivoting of tongue 120 relative to tongue mounting 118 as hereinafter described.

The tongue 120 is pivoted on a pin 122 which is journaled in the extended end of tongue mounting 118. The rearward portion of tongue 120 carries a pin 124 which assists in keeping the segments of tongue 120 together and which is also headed for cooperation with a second slotlike traverse 126 which is punched through vertical leg 34' of frame 30'. The traverse 126 is a straight-line traverse over a substantial portion of its run, but jogs upwardly at 130 to effect movement of the tongue 120 to a position shown in Figure 10, wherein piercing action by the pin P is being effected, and then the traverse straightens out and slopes downwardly somewhat at 132 to produce the pinning motion shown in Figure 11, wherein the pin P is caused to grip the fabric F. After the pin P has been secured to the fabric F, as shown in Figure 11, the rearward movement of the pin dispenser 72' disengages tongue 120 from pin P, as pin P is retained on fabric F by friction, and results in repositioning of the pin dispenser 72' rearwardly of the storage means 58' so that the next forward movement of pin dispenser 72' effects ejection and insertion of the next drapery pin.

While there has been shown and described a particular embodiment of this invention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the

invention and, therefore, it is intended in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What I claim as new, and desire to secure by Letters Patent of the United States, is:

1. A manually manipulable drapery pin dispenser comprising, in combination, an elongated frame, handle means connected to said frame, pin dispensing and inserting means movably mounted on said frame for movement along a preselected traverse generally longitudinally of said frame, pin locating means carried on said frame for receiving and positioning a drapery pin for engagement by said pin dispensing and inserting means at a point intermediate the ends of said preselected traverse, so that said pin is dispensed and inserted upon operation of said dispensing and inserting means, drapery pin storage means carried by said frame for storing therein a plurality of drapery pins, and resiliently biased feed means for automatically feeding a new drapery pin to said pin locating means regardless of the attitude at which the dispenser is positioned by an operator and prior to the dispensing operation of said pin dispensing and inserting means along said predetermined traverse.

2. A device as set forth in claim 1 wherein said storage means and resiliently biased feed means are combined with said handle means.

3. A manually manipulable drapery pin dispenser comprising, in combination, an elongated frame, handle means connected to said frame, pin dispensing and inserting means movably mounted on said frame for movement along a preselected traverse generally longitudinally of said frame, a relatively flat pin locating means carried on said frame for receiving and positioning a drapery pin for engagement by said pin dispensing and inserting means at a point intermediate the ends of said preselected traverse, so that said pin is dispensed and inserted upon operation of said dispensing and inserting means, drapery-pin storage means including an elongated retaining flange extending transversely of the plane of said pin locating means and adapted to engage the tips of a plurality of drapery pins in said storage means to both prevent inadvertent discharge of pins from said storage means and to assist in aligning said plurality of drapery pins, and said retaining flange being recessed at the point in the plane of movement of said dispensing and inserting means and where the pin to be dispensed and inserted is positioned, and resiliently biased feed means including a feed member movable longitudinally of said elongated retaining flange for automatically feeding a new drapery pin to said pin locating means regardless of the attitude at which the dispenser is positioned by an operator.

4. A drapery pin dispenser comprising, in combination, an elongated frame, handle means connected to said frame, pin dispensing and inserting means movably mounted on said frame, pin locating means carried on said frame for receiving and positioning a drapery pin for engagement by said pin dispensing and inserting means, track means including a pair of spaced tracks on said frame defining a preselected traverse over which said pin dispensing and inserting means is caused to move, follower means on said pin dispensing and inserting means operatively associated with said track means, portions of at least one of said pair of tracks varying in its attitude with respect to the other track, so as to cause the pin dispensing and inserting means to first angle a drapery pin downwardly after it has been picked up, so as to effect piercing insertion of the drapery pin in drapery material, and then to straighten out movement of said drapery pin relative to drapery material, so as to simulate the manual action of insertion of a drapery pin.

5. A drapery pin dispenser comprising, in combination, an elongated frame, handle means connected to said frame, pin dispensing and inserting means movably mounted on said frame, pin locating means carried on

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said frame for receiving and positioning a drapery pin for engagement by said pin dispensing and inserting means, said pin dispensing and inserting means including an elongated actuator member slidably mounted on said frame for movement along a first traverse, means defining a first traverse on said frame, a drapery-pin engaging tongue pivotally mounted adjacent the forward end of said actuator member, a second traverse defined on said frame, a traverse engaging means on said tongue engaging and following said second traverse, and said second traverse being shaped to effect pivotal movement relative to said actuator member of a drapery pin carried on said tongue, first into a drapery-piercing attitude followed by a drapery-gripping movement, as the actuator member is moved along said first traverse.

6. A manually manipulable drapery pin dispenser comprising, in combination, an elongated frame, handle means connected to said frame, pin dispensing and inserting means movably mounted on said frame for movement along a preselected traverse generally longitudinally of said frame, pin locating means carried on said frame by receiving and positioning a drapery pin for engagement

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with said pin dispensing and inserting means at a point intermediate the ends of said preselected traverse, so that said pin is dispensed and inserted upon operation of said dispensing and inserting means, selectively extensible gauge means carried on said frame and providing an extended end thereof which is adjustable longitudinally of said frame to vary the point of insertion of the drapery pin by said dispensing and inserting means relative to said extended end of said gauge means, drapery-pin storage means carried by said frame for storing therein a plurality of drapery pins, resiliently biased feed means for automatically feeding a new drapery pin to said pin locating means regardless of the attitude at which the dispenser is positioned by an operator and prior to the dispensing operation of said pin dispensing and inserting means along said predetermined traverse, and track means on said frame defining a preselected traverse over which said pin dispensing and inserting means is caused to move.

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