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TOOL FOR DRAPERY PINS

Filed Jan. 28, 1958

2 Sheets-Sheet 1

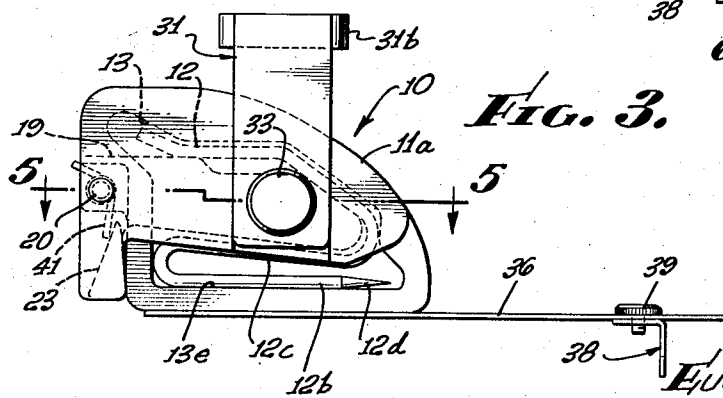
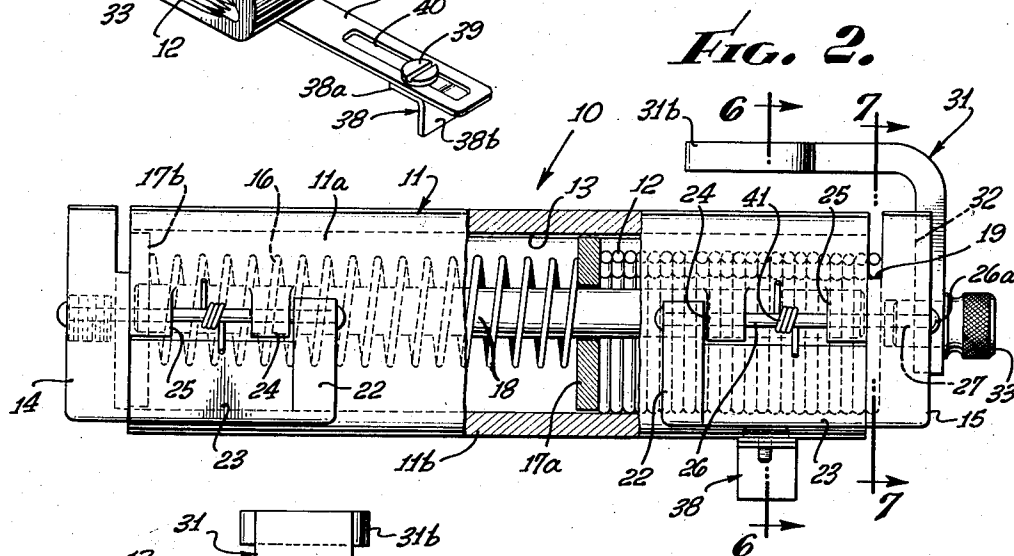
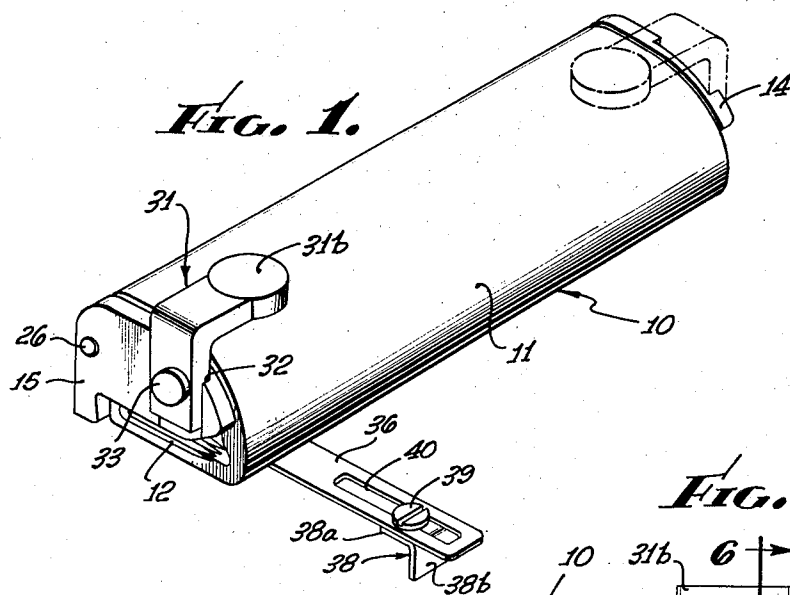


FIG. 3.

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2 Sheets-Sheet 2

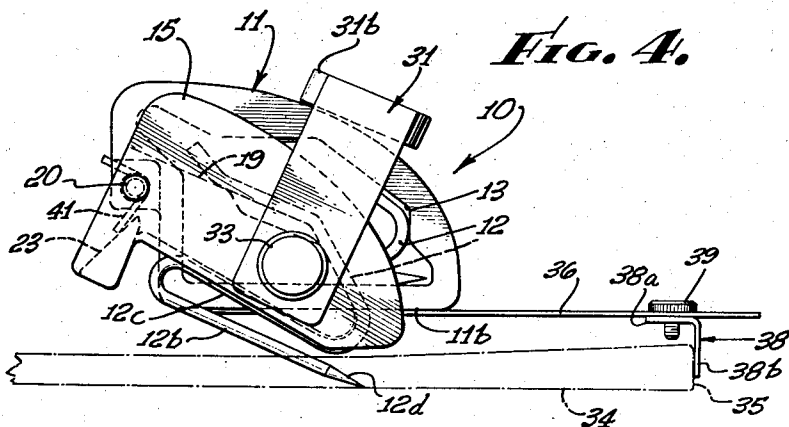


Fig. 5.

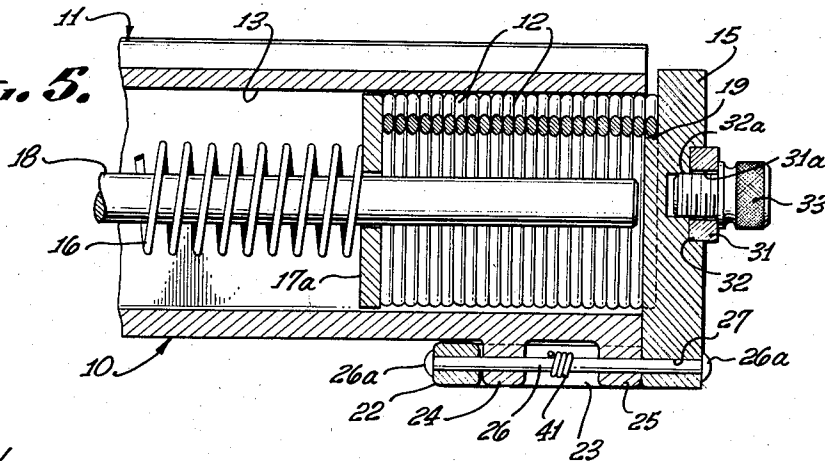


Fig. 6.

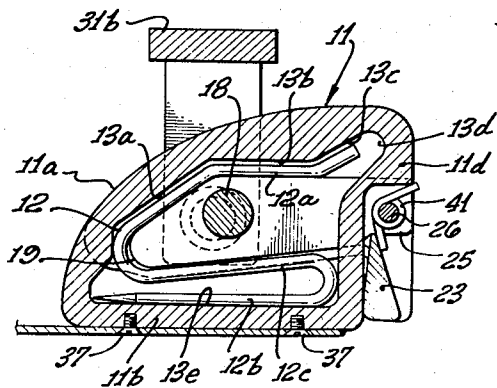
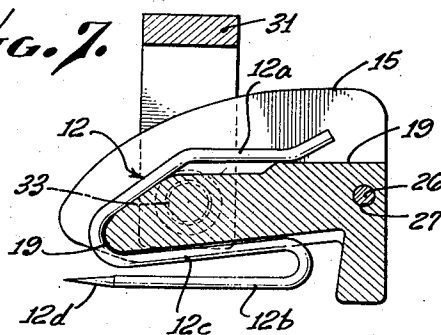


Fig. 7.



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TOOL FOR DRAPERY PINS

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11 Claims. (Cl. 1—46)

This invention relates to the drapery art, and particularly to a device for facilitating the insertion of drapery pins into drapery materials.

Drapery pins currently in vogue are of a unitary construction and generally of S-shaped configuration. One end of the pin is pointed and enters the fabric material. The U-bend formed adjacent this end provides a seat for the fabric. The other end of the pin is inserted through an eyelet or the like provided by a drapery rod, and the adjacent U-bend rests in the eye, whereby the drapery is appropriately suspended.

In practice, loose pins are picked up one by one and appropriately oriented and located relative to the edge of the drapery for insertion. Substantial time is wasted in manipulating the pins preparatory for insertion into the fabric. Manipulation of these pins, not altogether simple, is quite fatiguing. Considerable force is often required on the part of the drapery worker in order to insert the pin properly while grasping the pin between his fingers, especially in connection with heavy drapery materials. For this reason and for the reason that a large number of separate pins are handled, heavy callouses are developed on the fingers of drapery workers.

The primary object of this invention is to overcome the foregoing disadvantages and to provide a portable automatic tool that, when loaded, expedites the entire operation and obviates separate, or any, handling of the pins proper. For this purpose, the tool serves to contain a supply of pins, and has novel means for partial ejection of the end pin so that it may be inserted in the drapery material prior to the time it leaves the tool. The seating force is applied through the tool, which is easily grasped, to the pin. The succeeding pin is automatically available for the next operation of the tool. In this manner, actual handling of the pin is obviated.

Another object of this invention is to provide an automatic tool of this character which can easily be operated as by a simple manipulation on the part of the user.

Another object of this invention is to provide a reversible tool whereby the apparatus may be adapted for use either by a right-handed or left-handed person.

Another object of this invention is to provide a tool of this character which comprises relatively few and simple parts.

Still another object of this invention is to provide a device of this character which incorporates an adjustable guide for obviating repeated measurement of the place of insertion of the drapery hook from the border of the drapery material.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of one embodiment of the invention. For this purpose, there is shown a form in the drawings accompanying and forming part of the present specification. This form will now be described in detail, illustrating the general principles of the invention; but it is to be understood that this detailed description

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is not to be taken in a limiting sense, since the scope of this invention is best defined by the appended claims.

Referring to the drawings:

Figure 1 is a pictorial view of apparatus incorporating the present invention;

Figure 2 is a side elevation taken from the rear of the apparatus and showing particularly the manner in which the end plates or head are mounted, the central portion of the device being illustrated in section;

Figure 3 is an end view of the device and illustrating the operative end plate or head;

Figure 4 is a view similar to Fig. 3, but illustrating the head or plate in ejecting position;

Figure 5 is a fragmentary sectional view taken along a plane corresponding to line 5—5 of Fig. 3; and

Figs. 6 and 7 are sectional views taken along planes indicated by lines 6—6 and 7—7 of Fig. 2.

The device 10 comprises a hollow elongated body 11 made of lightweight material such as cast aluminum. The interior of the body 11 is adapted to contain a supply of drapery pins or hooks 12 (Figs. 1 and 5) in side-by-side and touching relationship.

The central cavity 13 (Fig. 6) provided by the body 11 has a transverse configuration corresponding to that of a drapery hook of standard size. Upper internal adjoining wall portions 13a, 13b and 13c (Fig. 6) conform to the conventional angled configuration of the suspension arm 12a of the drapery pin. The upper, right-hand corner of the cavity 13 is arcuately formed, as at 13d, to accommodate the terminal portion of the suspension arm 12a.

The lower wall 13e of the cavity 13 is flat, conforming to the configuration of the insertion end 12b of the pin 12. The upper surface 11a of the body 11 is curved downwardly. The outer, lower surface 11b of the body 11 is of planar configuration to provide a base for the tool.

End plates 14 and 15 (Fig. 2) close the ends of the cavity 13. The pins 12 are urged toward one end of the body 11 and into engagement with one of the end plates 14 or 15.

In the present instance, the pins 12 are urged toward the left-hand end plate 15, as viewed in Figs. 1 and 2. For this purpose, a compression spring 16 (Fig. 2) is provided. This spring engages an apertured feed plate 17a guidingly accommodated within the cavity 13 which, in turn, engages the left-hand end pin 12 of the stacked pins in the cavity 13. The other or outer end of the spring 16 engages an apertured reaction plate 17b which, in turn, bears against the corresponding end plate 14. A rod 18, supported by the apertures of the feed plate 17a and reaction plate 17b and passing through the spring 16, maintains the spring in position. As shown in Fig. 6, this rod passes with clearance through the aligned pins 12 and extends the entire length of the body 11. It is thus operative for all positions of the feed plate 17a.

The end plate 15, toward which the pins 12 are urged, functions to eject the end pin by urging the end pin transversely of the stack. This is analogous to a "slicing" operation in which the right-hand pin is "sliced" from the stack in succession. For this purpose, a seat in the form of an integral boss 19 (Fig. 7) is provided on the inner surface of the plate 15. The seat 19 enters the U-bend formed between the suspension end 12a of the end drapery pin 12 and the connecting portion 12c thereof.

As shown clearly in Fig. 2, this seat 19, although it adjoins the end of the body cavity 13, lies entirely beyond the end thereof. The end pin, although supported by the seat 19, clears the body 11, the effective depth of the seat being substantially equal to the thickness of the pin.

To expose the point 12d of the drapery pin, the ejection plate 15 is rotated downwardly (Fig. 4) or in a clockwise direction about an axis 20 remote from the point 12d of the pin 12, parallel to and beyond the body cavity 13. The point 12d and a substantial portion of the adjoining insertion arm 12b are thereby made accessible beneath the lower surface 11b of the body 11. The axis 20 is located adjacent the vertical rear surface 11c of the body 11.

For supporting the end ejector plate 15 for angular movement about this axis 20, an arm 22 (Figs. 2 and 5) is provided. This arm 22 is joined to the rear portion of the plate 15 by the aid of a connecting portion 23 (see also Fig. 3). In the present instance, the arm 22 and connecting portion 23 are formed as an integral lateral extension of the plate 15. The arm 22 and the rear portion of the plate 15 together exteriorly encompass spaced lugs 24 and 25 (Fig. 5) formed on the rear portion of the body 11. These lugs 24 and 25 depend from an overhanging ledge 11d of the body (Fig. 6). A shaft 26 (Fig. 5), having peened-over ends 26a passes through registering apertures 27 in the plate 15 (Fig. 7), 28 and 29 in the lugs 25 and 24, and 30 in the arm 22.

For operation of the plate 15, a lever 31, generally of L-shaped configuration, is secured to the head 15. One arm of the lever 31 fits a slot 32 (see Figs. 1 and 5) in the outer surface of the ejection plate 15. A knurled thumb screw 33 cooperates with a threaded recess 32a opening in the slot and, passing through an aperture 31a of the lever 31, fastens the lever 31 to the plate 15. The other arm extends inwardly along the body 11, and has a circularly enlarged end, as at 31b, for engagement by the thumb or finger of the user. When the plate 15 is in alignment with the body cavity 13, the lever arm 31 is spaced above the body surface 11a. The right hand of the user encompasses the body 15, with the thumb opposed to the lever end 32. Engagement between the lever 31 and the top surface 11a of the body 11 determines the limited downward position of the ejection plate 15.

Upon depression of the lever 31, the end pin 12 is exposed for insertion, as illustrated in Fig. 4. The pin 12 is readily inserted in the drapery material 34 as the body 11 is drawn toward the end edge 35 of the drapery material. When the pin 12 is fully seated, it is flexed due to the entrance of drapery material between the insertion arm 12b and the connecting portion 12c of the pin 12. The pin frictionally grips the drapery material so that, as the body 11 is retracted, the seat 19 is readily withdrawn through the opening in the U-portion of the pin.

A gauge bar 36, affixed to the under surface 11a of the body 11, as by the aid of screws 37 (Fig. 6), adjustably mounts a guide 38, whereby uniform spacing of the points 12d of all of the pins relative to the top edge 35 of the drapery material 34 is determined. The guide 38 comprises an L-shaped bracket having one arm 38a extending along the length of the bar 36. A screw 39 passes through an elongate slot 40 (Fig. 1) in the gauge bar 36 and threadedly engages an aperture formed in the arm 38a, whereby the bracket 38 is adjustably mounted along the length of the bar 36. The other arm 38b depends from the bar 36 and forms an abutment engaged by the edge 35 of the drapery material 34.

The ejection plate 15 is normally urged toward an aligned position with respect to the body cavity 13 so that it is in position to receive the succeeding pin 12. For this purpose, a coil spring 41 (Fig. 5) is provided. This spring 41 surrounds the mounting shaft 26 and is located between the spaced lugs 24 and 25 of the body 11. One end (Fig. 3) engages the rear surface 11c of the body 11, and the other end engages a sloping outer surface of the connecting portion 23. The connecting portion 23, by engagement with the rear surface of the body

11, determines the normal limited position of the ejection plate 15. This corresponds to an aligned relationship of the seat 19 of the ejection plate with the pins 12 in the cavity 13.

As the plate 15 is rotated from aligned position carrying the end pin therewith, the next succeeding pin is prevented from moving beyond the end of the cavity 13, the flat surface of the seat 19 forming an abutment for this next succeeding pin, as illustrated in Fig. 4. The next succeeding pin, of course, does not jam the plate 15 because the seat 19 terminates inwardly at a plane of distance corresponding only to one pin. As the plate 15 returns to its aligned relationship upon the release of digital pressure at the end 33 of the lever 31 after the previous pin insertion operation is completed, the succeeding pin snaps over the seat 19.

The left-hand end plate 14 is identical to but the mirror image of the opposite end plate 15. It is similarly pivotally mounted on the rear surface of the body 11. Pins 12 conveniently are loaded into the cavity 13 via the end plate 14. For this purpose, the closure plate 14 is rotated substantially until it entirely clears the cavity 13. The axis 20 being beyond the cavity and no operating lever being attached to the plate 14, the plate 14 may be moved sufficiently until it clears the cavity. The compression spring 16, feed plate 17a and reaction plate 17b are removed. The cavity is loaded in a suitable manner, and the parts are replaced.

The reaction plate 17b facilitates appropriate compression of the spring. Partial return of the closure plate 14 holds the reaction plate in position before digital pressure is removed. The seat 19 is extended rearwardly (Fig. 7) to facilitate this operation. The coil spring for the end plate 14 ensures against accidental movement of the closure plate 14 from retaining position.

Should the tool 11 be used by a left-handed person, the only changes necessary are to reorient the lever 31 to the position illustrated in phantom lines in Fig. 1 and to reorient the gauge bar 36.

The inventor claims:

1. In a device for dispensing drapery hooks: a casing for accommodating a stack of hooks in side-by-side relation; said casing being open at one end; a cover member defining with said end a slot for accommodating a single hook; means carried by said cover member for engaging the hook in the slot; and means for mounting the cover member for movement transverse of the stack for urging the single hook laterally away from the stack.

2. In a device for dispensing drapery hooks: a casing for accommodating a stack of hooks in side-by-side relation; said casing being open at one end; a cover member defining with said end a slot for accommodating a single hook; means carried by said cover member for engaging the hook in the slot; means for mounting the cover member for movement transverse of the stack for urging the single hook laterally away from the stack; and means resiliently urging the stack toward said cover member.

3. In a device for dispensing drapery hooks: a casing for accommodating a stack of hooks in side-by-side relation; said casing being open at one end; a cover member defining with said end a slot for accommodating a single hook; means carried by said cover member for engaging the hook in the slot; and means for mounting the cover member for movement transverse of the stack for urging the single hook laterally away from the stack; said hook being separable from said engaging means upon movement of the hook relative to the cover member in a direction corresponding to advancement of the hook.

4. In a tool for inserting unitary substantially S-shaped drapery hooks having a suspension arm, an insertion arm, and a connecting arm: an elongate hollow body open at least at one end, and providing a cavity having a shape guidingly to receive a stack of drapery hooks; an ejection plate at said one end of said body and mounted

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on the body for angular movement about an axis substantially parallel to the body, said axis being spaced from the area of said body at which the end of said insertion arm is adapted to be disposed; said plate having a seat over which that portion of the end hook between the suspension arm and the connecting arm is received when the seat is aligned with the body cavity; means normally determining an aligned relationship between said seat and said body cavity; said plate having a manually engageable portion whereby the plate may be moved about its axis to separate the end hook from the stack and to position the end of said insertion arm beyond the body; and means for urging the stack of hooks towards said one end.

5. In a tool for inserting unitary substantially S-shaped drapery hooks having a suspension arm, an insertion arm, and a connecting arm: an elongate hollow body open at least at one end, and providing a cavity having a shape guidingly to receive a stack of drapery hooks; an ejection plate at said one end of said body and mounted on the body for angular movement about an axis substantially parallel to the body, said axis being spaced from the area of said body at which the end of said insertion arm is adapted to be disposed; said axis being located beyond one side of the cavity; said plate having a seat over which that portion of the end hook between the suspension arm and the connecting arm is received when the seat is aligned with the body cavity; means normally determining an aligned relationship between said seat and said body cavity; said plate having a manually engageable portion whereby the plate may be moved about its axis to separate the end hook from the stack and to position the end of said insertion arm beyond the body; means selectively movable to operative and inoperative positions for limiting movement of the plate away from aligned relationship, said means, when operative, ensuring that the plate retains all but the end hook in the barrel, said means, when inoperative, permitting exposure of the cavity; and means for urging the stack of hooks towards said one end.

6. In a tool for inserting unitary substantially S-shaped drapery hooks having a suspension arm, an insertion arm, and a connecting arm: an elongate hollow body open at both ends, and providing a cavity having a shape guidingly to receive a stack of drapery hooks; an ejection plate at one end of said body and mounted on the body for angular movement about an axis substantially parallel to the body, said axis being spaced from the area of said body at which the end of said insertion arm is adapted to be disposed; said plate having a seat over which that portion of the end hook between the suspension arm and the connecting arm is received when the seat is aligned with the body cavity; means normally determining an aligned relationship between said seat and said body cavity; said plate having a manually engageable portion whereby the plate may be moved about its axis to separate the end hook from the stack and to position the end of said insertion arm beyond the body; means limiting movement of the plate away from said aligned relationship to ensure retention in the cavity of all but the end hook; a closure mounting at the other end of the body and selectively movable for insertion of a supply of drapery hooks into the cavity; and means for urging the stack of hooks towards said one end.

7. In a tool for inserting unitary substantially S-shaped drapery hooks having a suspension arm, an insertion arm, and a connecting arm: an elongate hollow body providing a barrel open at opposite ends, the barrel being

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shaped guidingly to receive a stack of drapery hooks; a pair of plates at the respective ends of the body and coaxially mounted on the body for separate angular movement about an axis located laterally beyond but parallel to the body at that side thereof remote from the area corresponding to the end of said insertion arm; both plates having seats facing the respective barrel ends shaped to be received between the suspension arm and the connecting arm of a drapery hook; means normally determining an aligned relationship between said seats and said barrel ends; means urging the stack of hooks toward one end of the barrel and so that the end hook is received upon the seat of one of the plates; and means limiting angular movement of said one plate away from aligned relationship to retain all but said end hook in the barrel; said one plate forming an ejection plate; the other plate being movable to provide access for insertion of a supply of hooks into said barrel, and forming a closure plate.

8. The combination as set forth in claim 7 in which said limiting means comprises an angled actuating lever secured to said one plate and extending along the body for engagement therewith upon movement of said one plate away from aligned relationship.

9. The combination as set forth in claim 7 in which said limiting means comprises an angled actuating lever detachably secured to said one plate and extending along the body for engagement therewith upon movement of said one plate away from aligned relationship, said plates each having provisions for selective attachment of said lever whereby the functions of said plates may be reversed.

10. The combination as set forth in claim 7 in which said limiting means comprises an angled actuating lever detachably secured to said one plate and extending along the body for engagement therewith upon movement of said one plate away from aligned relationship, said plates each having provisions for selective attachment of said lever whereby the functions of said plates may be reversed, said body also having provisions for selective attachment of a guide adjacent either end of the body.

11. In a tool for inserting unitary substantially S-shaped drapery hooks having a suspension arm, an insertion arm, and a connecting arm: an elongate hollow body providing a barrel open at opposite ends, the barrel being shaped guidingly to receive a stack of drapery hooks; a pair of plates at the respective ends of the body and coaxially mounted on the body for separate angular movement about an axis located laterally beyond but parallel to the body at that side thereof remote from the area corresponding to the end of said insertion arm; both plates having seats facing the respective barrel ends shaped to be received between the suspension arm and the connecting arm of a drapery hook; means normally determining an aligned relationship between said seats and said barrel ends; a feed member guidingly received in and removable from the barrel; a reaction member guidingly received in and removable from the barrel; a spring between the members and urging them apart to cause the stack of hooks to be urged toward one end of the barrel, and the corresponding end hook to be received upon the seat of one of the plates; and means limiting angular movement of said one plate away from aligned relationship to retain all but said end hook in the barrel; said one plate forming an ejection plate; the other plate being movable to provide access for insertion of a supply of hooks into said barrel, and forming a closure plate.

No references cited.