

April 12, 1955

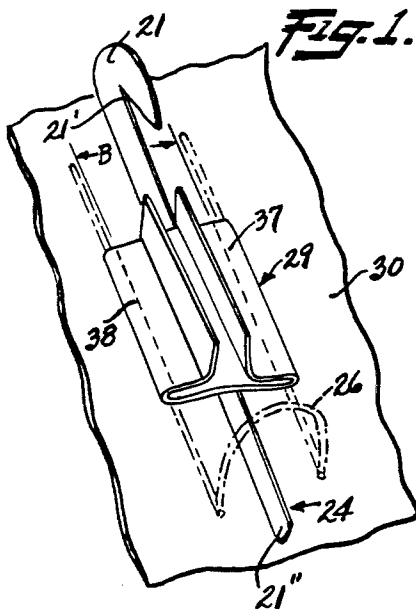
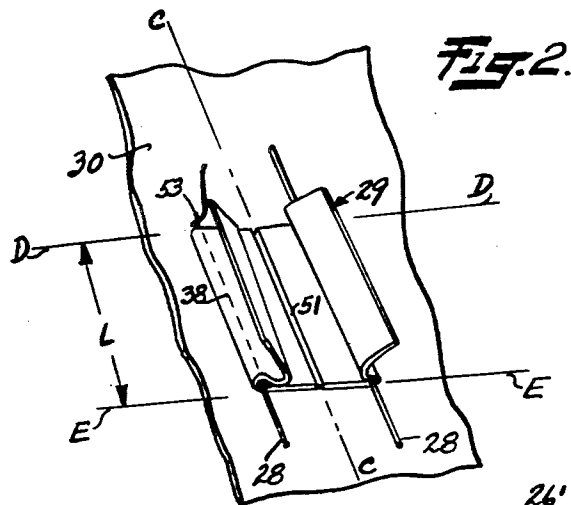
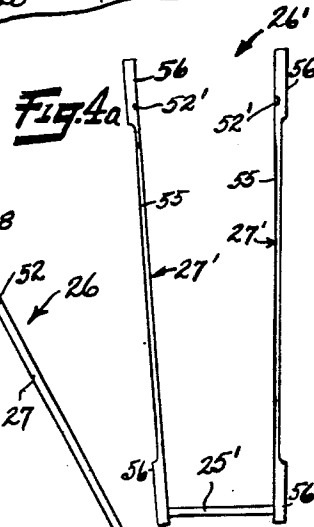
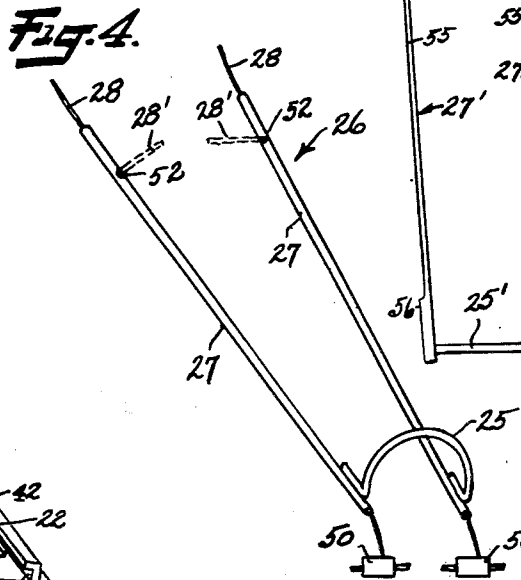
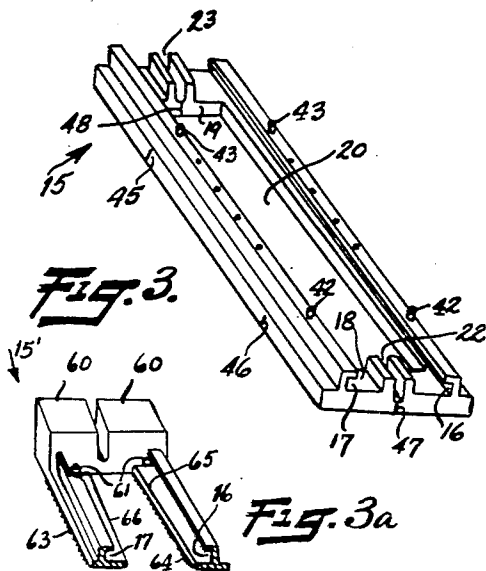
A. MOSBERG

2,705,930

DEVICE FOR USE IN THE MAKING OF PIPED BUTTON HOLES

Filed April 6, 1954

2 Sheets-Sheet 1



INVENTOR,
ABRAHAM MOSBERG,
BY- *[Signature]*
ATTORNEY

April 12, 1955

A. MOSBERG

2,705,930

DEVICE FOR USE IN THE MAKING OF PIPED BUTTON HOLES

Filed April 6, 1954

2 Sheets-Sheet 2

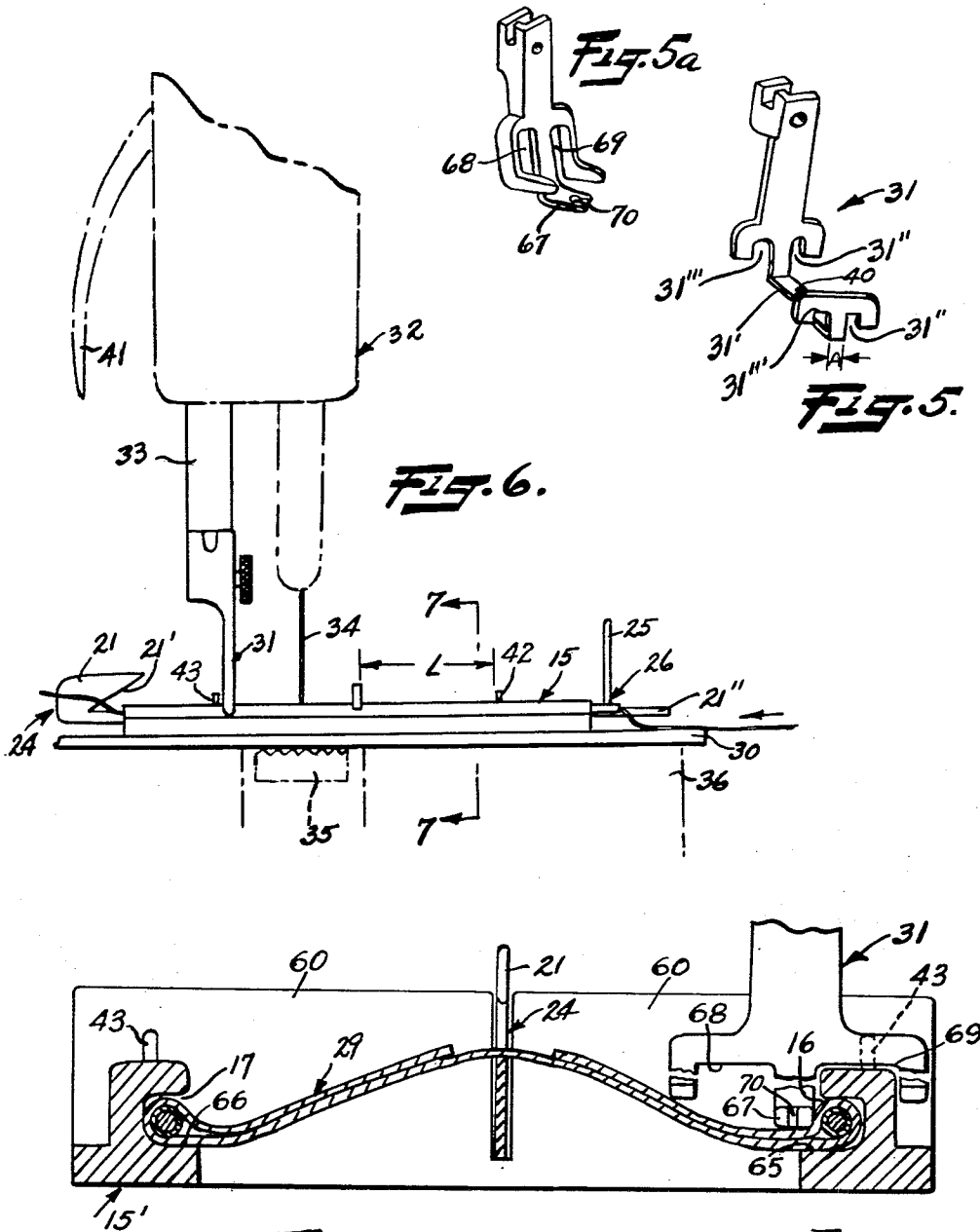


Fig. 7.

INVENTOR,
ABRAHAM MOSBERG

By- *[Signature]*
ATTORNEY

1

2,705,930

DEVICE FOR USE IN THE MAKING OF PIPED BUTTON HOLES

Abraham Mosberg, New York, N. Y.

Application April 6, 1954, Serial No. 421,327

14 Claims. (Cl. 112—77)

The present invention relates to a device for use in the making of piped button holes on an ordinary sewing machine.

In my pending application for patent filed August 12, 1953, under Serial No. 373,798, I have set forth a device of the character mentioned, which makes it a simple matter to properly fold, position and sew on the fabric piece which constitutes the edging to encompass the edges of the button hole slit in formations in the tailoring and dressmaking art called piped button holes.

The principal object of this invention is to provide improvements in said former device, so that the seams are corded and to provide slitting means for the fabric piece sewed on.

Another object hereof is to provide a novel and improved device of the character set forth, which is simple and cheap in construction, easy to use and efficient in carrying out the purposes for which it is designed.

Other objects and advantages will become apparent as this disclosure proceeds.

In the accompanying drawings forming part of this specification, similar characters of reference indicate corresponding parts in all the views.

Fig. 1 is a perspective view of the work accomplished with the device taught herein. Also shown is a slitting blade which may be included in this device, if it is desired to have handy means to slit the sewed-on fabric piece.

Fig. 2 is a perspective view showing the fabric piece slit by the blade, after said blade had been pulled to do its work. In both Figs. 1 and 2 the ends of the fabric piece are shown bent upwardly merely to attain clarity of illustration. In reality, such ends lie flat or overlap each other if long enough.

Fig. 3 is a perspective view of a part of the device used to fold and hold the fabric piece which is to constitute the edging for the button hole.

Fig. 3a is a fragmentary perspective view of the rear portion of the member shown in Fig. 3, but of a slightly modified construction.

Fig. 4 is a perspective view of a member which co-operates with the item of Fig. 3 (or 3a) to fold and hold the edging fabric and has the further function to accomplish cording the seams.

Fig. 4a is a top plan view of a member as in Fig. 4, but of a slightly modified construction.

Fig. 5 is a perspective view of the presser foot which acts as a co-operating track means along which the member of Fig. 3 (or 3a) rides during the sewing operations.

Fig. 5a is a perspective view of a presser foot of slightly modified construction.

Fig. 6 shows the end view of a sewing machine with the device taught herein in use relation.

Fig. 7 is an enlarged section taken at lines 7—7 in Fig. 6, with member 15' shown in place of the member 15, and the presser foot shown in Fig. 5a instead of presser foot 31, shown in Fig. 6.

In the drawings, the numeral 15 designates generally a frame piece presenting a pair of spaced, elongated parallel opposite channels 16, 17, opening towards each other. One side wall of each such channel therefore extends over its associated side wall in this structure. The lower walls of said channels are joined at their ends by the spacers 18, 19, thereby providing the opening 20. Midway between the channels 16, 17, on each of said connection spacers, there extends upwardly therefrom an upright channel to receive and guide a slitting blade,

2

whose cutting means is the sharpened crotch 21' of a hook 21 at one end of said blade. These blade-guiding channels are denoted by the numerals 22 and 23. Said hook 21 is at an end of and coplanar with an elongated stem 21'', which is of a length sufficient to extend beyond the extreme ends of the guide channels 22, 23 when said blade 24 is set through said channels as shown in Fig. 6.

The numeral 25 denotes a stiff, resilient U-shaped member normally in inverted position, serving as a handle by being the bight of a U-shaped member 26, whose arms are thin elongated tubular elements 27, whose hole diameter is just sufficient to carry gimp threads or cords 28 in slidable relation therethrough. Of course, the springy handle 26 may take other convenient shapes. The tubes 27 diverge when member 26 is free, and when pinched towards each other, said piece 26 may be inserted in stressed condition so that each of said tubes lies within one of the channels 16, 17 respectively. Said tubes are preferably longer than said channels 16, 17 and when parallel, are adapted to fit snug in said channels as in Fig. 7, to clamp the fabric piece 29 which is to become the edging for the slit of a piped button hole in the work 30.

With the frame piece 15, the presser foot 31 is used on the single needle sewing machine 32. The numeral 33 denotes the presser foot bar of said machine, on the bottom of which bar, the said presser foot 31 is mounted. The numeral 34 indicates the needle of said machine, the work-feed toothed member is shown at 35 while the numeral 36 denotes the table of the sewing machine for the work 30 to rest on.

The presser foot 31 serves its normal function of holding the work for action by said feeding means 35 which advances the work towards the line of the needle upon upstroke of said needle, and also to guide the frame piece 15 with respect to the needle so that the seam lines 37, 38 may be properly performed. The element 31' which is the actual foot, sets on that portion of the fabric piece 29 which is over the opening 20. The said presser foot 31, presents for the frame piece 15, a track means offered for instance by the notches 31'', 31''', determining channels in which the channels 16, 17 slidably fit for movement along the work 30 parallel to the stitching. When width A is sufficient to hold the frame piece 15 so that only longitudinal movement but no lateral movement of said frame piece is permitted, then notches 31''' may be omitted. The needle hole 40 is midway between the plane through the guide slots or notches 31'', and the plane through the notches 31''', and the distance between such planes respectively to said needle hole must be proper for accomplishment of distance B between the lines of stitching 37, 38, when the device herein is used as will be explained, and of course, the distance between the track channels 16, 17 must be of suitable dimension.

Consider the sewing machine 32 fitted with the pressure foot 31 and the latter in raised position accomplished by manipulation of the handle 41 for such purpose. Lines are then chalked on the work 30 as follows: Line C—C is the line of the slit of the intended button hole. Lines D—D and E—E are across the ends of the proposed slit of length L. The distance between stops 42 and the directly opposite stops 43, are such that the permitted scope of travel of the frame piece 15 is distance L as shown in Fig. 6. Such stops may be fixed, or their position adjustable so as to alter the distance L as may be desired.

A rectangular piece of fabric material 29, of sufficient area to make the format thereof shown in Fig. 1, but of a length longer than the distance L, is placed substantially symmetrically over the frame piece 15. The member 26 is then laid atop the said fabric piece and its arms 27 are successively inserted in the channels 16, 17 respectively. The longitudinal margins of said fabric piece will automatically be folded by the mounting of said member 26 and will assume overlapped relation as shown in Fig. 7. It is to be noted that each channel 16, 17 has the exterior line markings 45, and 46, spaced a distance "L" properly positioned thereon to indicate the permitted lines of stitching afforded the needle 34. There are also the markings 47, 48 on the spacer elements 18,

3

19 respectively, midway the channels 16, 17, for properly positioning the frame piece 15 along the slit line C—C. when laden.

Before laying the fabric piece 29 on the frame piece 15, the blade 24 is set into the channels 22, 23, and before mounting the member 26 onto the frame piece, gimps or cords 28 are threaded through the tubes 27, from the supply reels indicated at 50. The laden frame piece 15 is set on the work 30 so that the marks 47, 48 line on line C—C and the markings 45, 46 line on the lines D—D and E—E respectively. The undersurface of the frame piece 17 may be of roughened nature to aid adherence of said frame piece to the work so that both shall move together. This non-slippage is necessary until the stitching commences and progresses a bit along the line effected. The frame piece so positioned on work 30, is moved along therewith and set as shown in Fig. 6 where the channel 16 serves as the track riding in the notches 31' of the lowered presser foot 31 with the element 31' on the fabric piece 29, and the presser foot body up against the rear stop 43 on said channel 16. The sewing machine 32 is then operated by "edging" for slight movements to perform the line of stitching 37 which is finished when the presser foot 31 contacts the front stop 42 on channel 16. The presser foot bar 33 is now raised by moving the handle 41. During the sewing operation, the operator extends a finger to hold the free rearward ends of the gimps 28, so that said gimps do not run out of the tubes 27 and he holds said gimp ends during all movement of the frame piece until he has finished stitching on line 38. The line of stitching 37 effected will of course hold the frame piece 15 onto the work 30, which is now shifted by the operator so that channel 17 be in the notches 31' and set so that the presser foot contacts the stop element 43 on channel 17. The sewing operation is now repeated to make the line of stitching 38.

When both lines of stitching are done, the presser foot is raised, the ends of the gimps are held against running into the tubes 27, the frame piece is shifted from under the needle and presser foot, whereupon the operator pulls the shank end of the blade 24 and slits the fabric piece 29 along line C—C as shown at 51 in Fig. 2. Now holding the free ends of said gimps 28, member 26 is withdrawn from the assembly by pulling on handle 25 and holding the pieces of 29 against movement. The minute hems formed in the piece 29 will be corded by the gimp pieces therein respectively and the tubes will slide forwardly and receive a fresh supply of gimp thread there-through. When the free ends of said tubes 27 are about an inch in front of fabric piece 29, the gimps are cut at the forward line E—E. Member 26 is thus always gimp-laden.

The fabric piece 29 is now trimmed by shearing same at its ends as required. Performing the format shown in Fig. 2 is the sole purpose of the device described herein, which operation as mentioned is merely preparatory to making a piped button hole. Of course, with the present device, besides the slit 51, cording of the hems is also accomplished. The finishing of the button hole structure from this point on is well known in the arts of dress-making and tailoring, for which information, reference may be had to Patent No. 1,945,104.

If desired, a hole at 52 may be provided in each of the tubular members 27, through which holes the free ends of the filaments or gimps 28 may extend respectively and be thereby in position as shown at 28' to be caught by the line of stitching as indicated at 53. This causes the gimp threads to be anchored and makes less work for the operator.

Fig. 4a which is a modified construction 26' of the piece 26, has its parts 27' made of tubular stock, which except for their respective ends are cut away to be mere straight wire in form with end tubular elements 56 as the means for holding the filaments which are respectively laced through such end tubular elements. Holes 52' serve the same as do the holes 52 in the embodiment shown in Fig. 4. The thinness of the elements 27' permits the seam lines 37, 38 to be nearer respectively to the fold line of the work so that the "tubes" formed in the fabric piece 29 in which said gimps 28 lie, are of smaller diameter than can be accomplished when the complete tubes 27 serve.

In the modified construction shown in Fig. 3a, the block elements 60, each have a hole 61 respectively in alignment with the horizontal channels 16 and 17. The

4

holding piece 26 (or 26'), when mounted on member 15' can have the free ends of the tubular members 27, inserted into such holes 60 respectively and thus hold the fabric piece 29 securely.

So that member 15 shall move along more positively with the work 30, provision is made as shown in the modified embodiment 15' thereof, that its underside if roughened as indicated at 63, 64, and ledges 65, 66 are provided so that with the use of the modified form of presser foot shown in Fig. 5a, the portion of foot 67, to one side of the needle, will rest and press the fabric piece 29 on one of such ledges, depending on which of the channels 16, 17 is in engagement with the presser foot for guidance in the notches 68 and 69 respectively. These are called here "notches" because they are akin and function exactly as do the notches 31', 31" in the presser foot of Fig. 5. The needle hole 70 in the presser foot portion 67, may be in the form of a key-hole-shaped notch. It is readily understood that the presser foot 31 when used with the member 15 of Fig. 3, would need its foot portion 31' to extend to the plane of the underside of said member in order to press the fabrics thereunder for action by the feeding member 35 of the sewing machine. It is evident that when said ledges as 65, 66 are absent, movement of the member 15 when laden, depends upon the occurrence of stitching at 37 or 38 as the case may be, but where such ledges are present, movement of the member as 15' is independent of the occurrence of any stitching.

This invention is capable of various forms and numerous applications without departing from the essential features herein disclosed. It is therefore intended and desired that the embodiments shown herein shall be deemed illustrative and not restrictive and that the patent shall cover all patentable novelty herein set forth; reference being had to the following claims rather than to the specific description herein to indicate the scope of this invention.

I claim:

1. In combination with a sewing machine having a needle bar carrying a needle, a presser foot bar which can be raised and lowered, carrying a presser foot, a table for supporting work to be sewn, under said bars and means for feeding the work in a predetermined straight line to the needle, of a member presenting an elongated channel, positioned on the table parallel to said line lengthwise and below said bars with its longitudinal opening to one side of the needle and facing said needle, a track means and a track-engaging means positioned to one side of the needle; one of such means being on said member and the other of such means being on the presser foot; said track means and track-engaging means being in disengagement when the presser foot bar is raised and in engagement when the presser foot bar is lowered; upon engagement of such means, the channel is afforded movement parallel to said line upon movement of said member; said channel being adapted to receive a piece of fabric material folded on itself to form two plies, so that said fabric piece may be positioned with its fold line within and along said channel and with portions of both its plies extending out of the lengthwise opening of said channel beyond the needle, an elongated element adapted to be set between the plies along their fold line; said elongated element fitting within and along said channel, means on said element adapted to carry a filament along said element and means for releasably holding said elongated element within said channel, whereby on operation of the machine, said needle will engage both said plies and enclose said elongated element and the filament carried therealong, between said fold line and the line of stitching effected, said member affording unhindered needle operation along a predetermined length of its channel.

2. The combination as defined in claim 1, wherein the elongated element is provided with two lengthwise spaced, lengthwise extending tubular parts; the end of said tubular parts being open to receive a filament through both said tubular parts.

3. The combination as defined in claim 2, wherein one of said tubular parts has an opening facing the needle.

4. The combination as defined in claim 1, wherein the elongated element is tubular.

5. The combination as defined in claim 1, wherein the mentioned member presents another elongated channel; the two channels being spaced, parallel, opposite, with

5

their longitudinal openings opposite each other, one at each side of the needle and facing the needle, another elongated element fitting within and along the second channel, means on said second element adapted to carry a filament along said second elongated elements and means for holding both said elongated elements within the respective channels; such means permitting release and removal of said elongated elements from said channels.

6. The combination as defined in claim 5, wherein each elongated element is provided with two lengthwise spaced, lengthwise extending tubular parts; the ends of said tubular parts being open, whereby the tubular parts on one of said elements are adapted to receive one filament through them and whereby the tubular parts on the other of said elongated elements are adapted to receive another filament through them.

7. The combination as defined in claim 5, wherein each elongated element is tubular.

8. The combination as defined in claim 5, wherein the holding means comprises a resilient element connecting both elongated elements at corresponding ends of said elongated elements; said elongated elements and said resilient element constituting a unitary structure; said elongated elements being in divergent relation from said resilient element when said structure is removed from the channels.

9. The combination as defined in claim 5, wherein the upper side of the member having the channels is contacted and pressed against by the presser foot when the latter is lowered and wherein its underside is roughened at least along those regions directly under those portions of the upperside of said member which is pressed against and contacted by the presser foot.

10. The combination as defined in claim 5, including a slitting blade along and between the channels, slidably mounted on said mentioned member having the channels and accessible near corresponding ends of said channels for movement by hand along the line of said channels.

11. The combination as defined in claim 10, wherein the blade includes a hook-like part; the crotch of said hook being the cutting means of said blade.

12. The combination as defined in claim 10, wherein

6

the mentioned member having the channels presents an upright channel intermediate corresponding and regions of said other channels; the blade being slidably mounted in said upright channel.

13. The combination as defined in claim 1, wherein the mentioned member presents another elongated channel; the two channels being spaced, parallel, opposite, with their longitudinal openings opposite each other, one at each side of the needle and facing the needle, another elongated element fitting within and along the second channel, means on said second elongated element adapted to carry a filament along said second elongated element and wherein the holding means comprises a resilient element connecting both elongated elements at corresponding ends of said elongated elements; said elongated and resilient elements constituting a unitary structure; said elongated elements being in divergent relation from said resilient element when said structure is removed from the channels and wall structure extending upwardly from the member presenting the channels, across one pair of corresponding of said channels; said wall structure having holes therein, one in alignment lengthwise with said channels respectively; the free ends of said elongated elements being within said holes respectively and in sliding fit therein.

14. The combination as defined in claim 13, wherein the said wall structure is provided with an upright channel therein, intermediate the other channels and extending parallel therewith and including a slitting blade positioned along and between said other channels and slidably mounted in said upright channel; the mentioned resilient element being arched and said blade extending through such arch so it is below said resilient element whereby said blade is accessible to be taken in hand and pulled to slide in the said upright channel.

References Cited in the file of this patent

UNITED STATES PATENTS

40	1,197,112 1,346,988	Eberley et al. ----- Stein -----	Sept. 5, 1916 July 20, 1920
----	------------------------	-------------------------------------	--------------------------------