Feb. 22, 1927. 1,618,562

G. A. WENDT

MACHINE FOR ORNAMENTING LININGS

Filed May 23, 1925 4 Sheets-Sheet 1

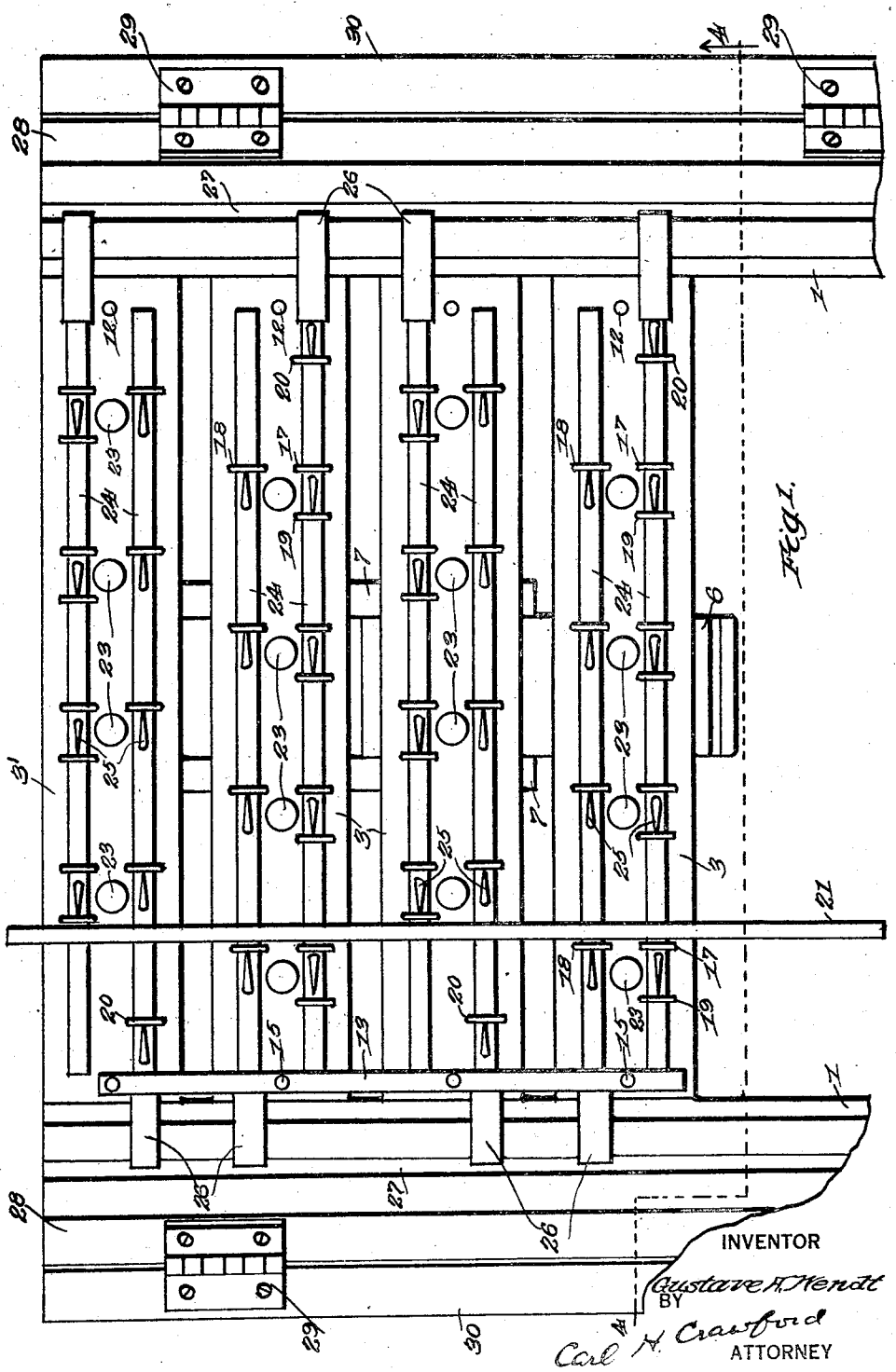


Fig. 1.

INVENTOR

Gustave A. Wendt

BY

Carl H. Crawford

ATTORNEY

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G. A. WENDT

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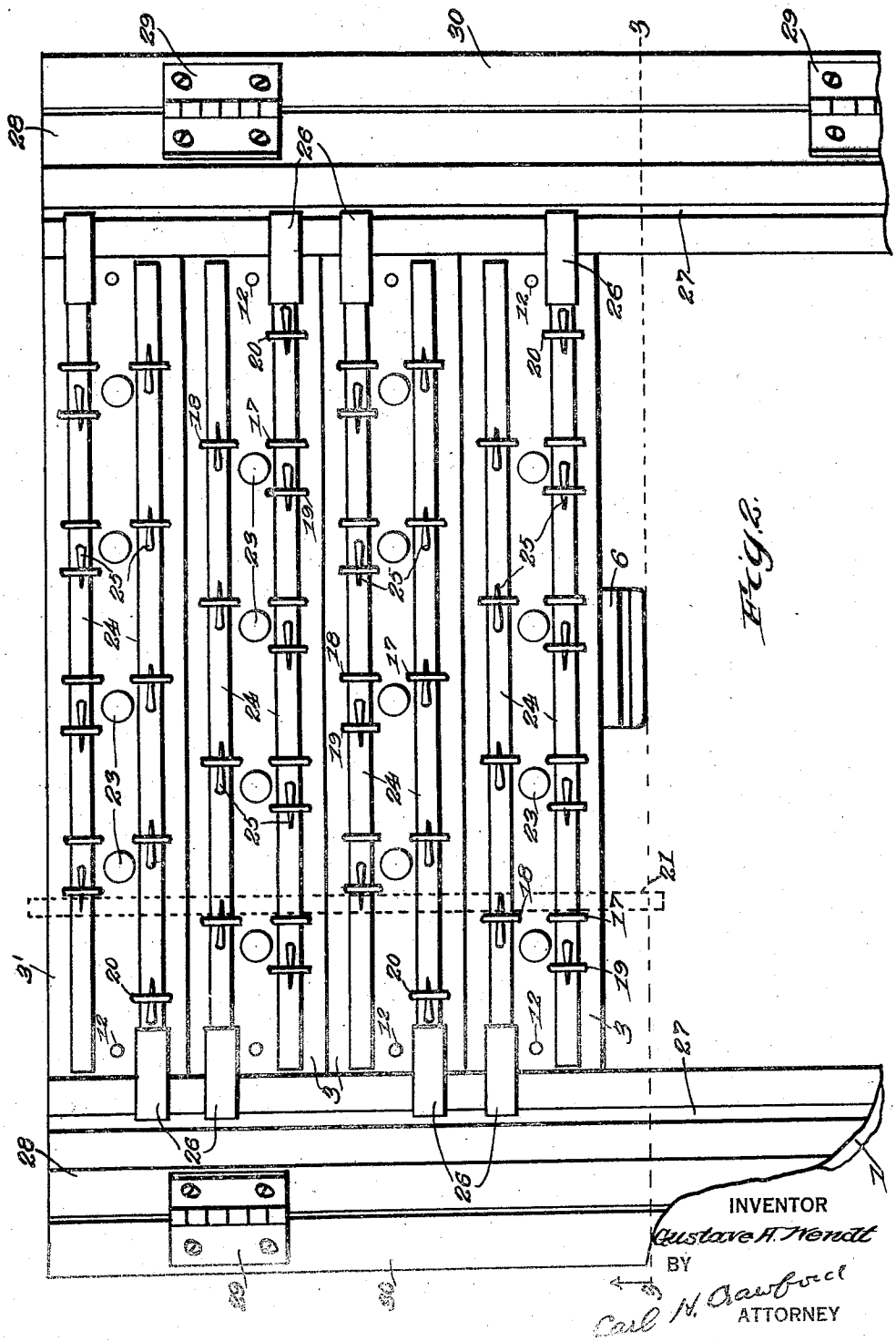


Fig. 2.

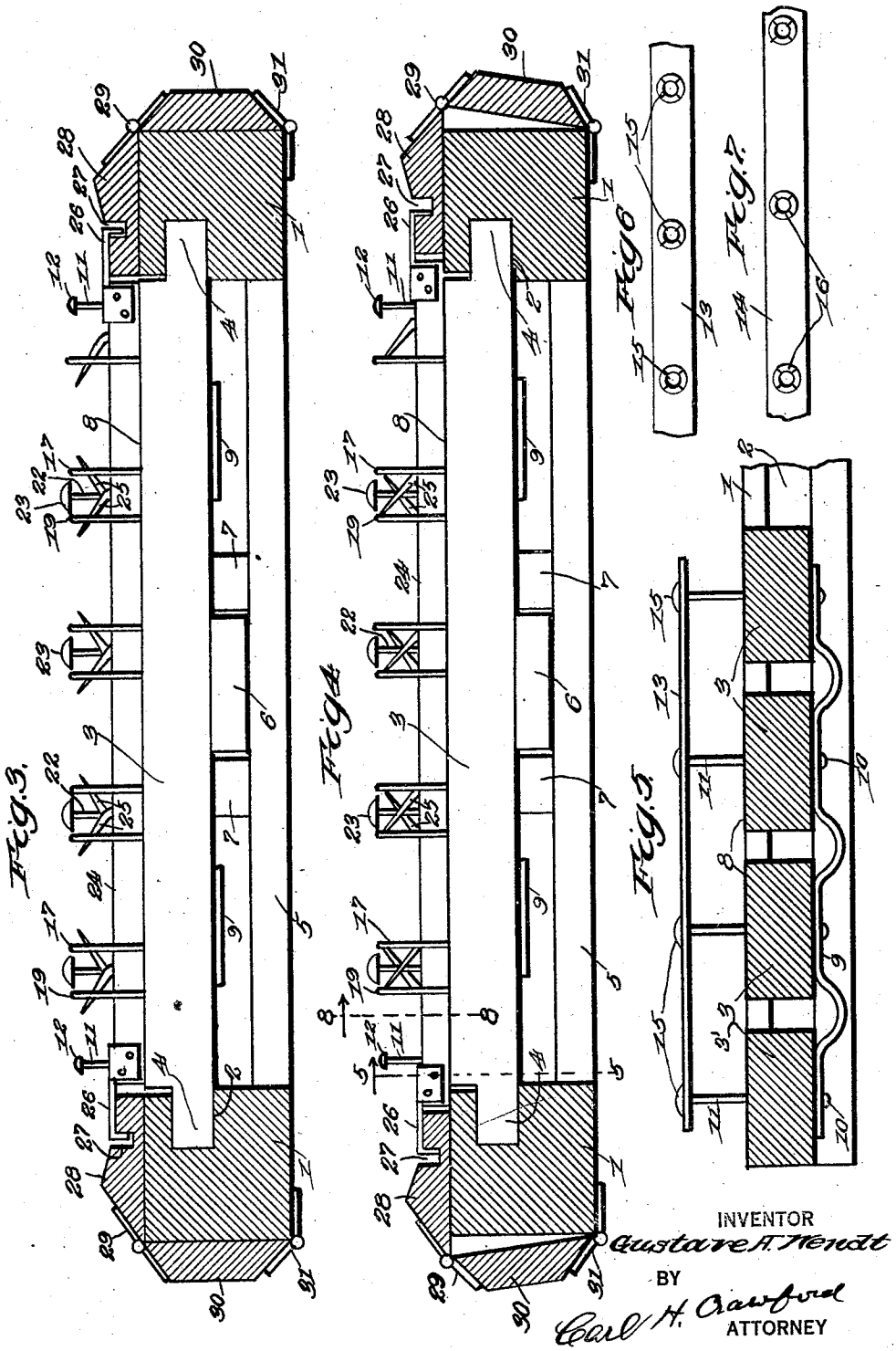
INVENTOR
Gustave A. Wendt
BY
Carl N. Crawford
ATTORNEY

Feb. 22, 1927. 1,618,562

G. A. WENDT

MACHINE FOR ORNAMENTING LININGS

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INVENTOR
Gustave A. Wendt
BY
Carl H. Crawford
ATTORNEY

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G. A. WENDT

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Fig. 8.

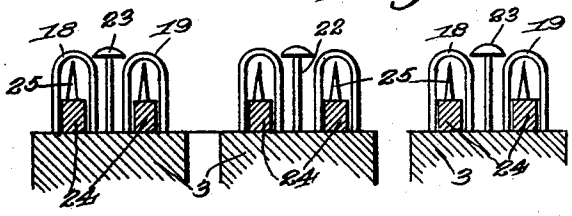
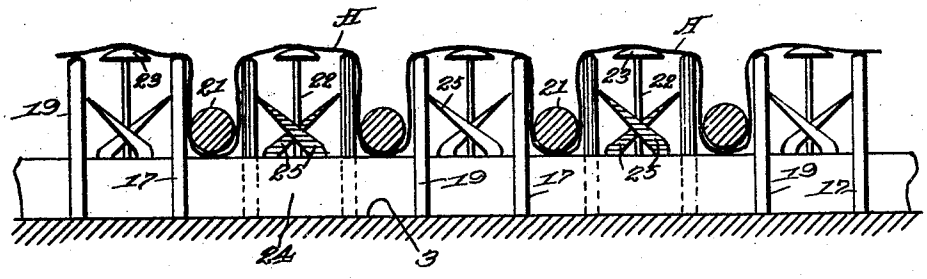


Fig. 9.



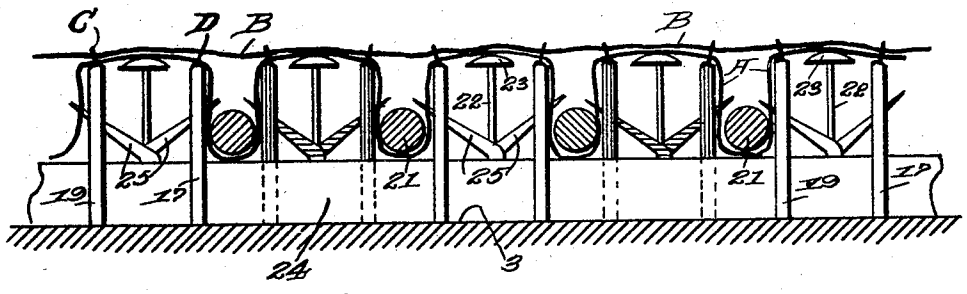


Fig. 10.

INVENTOR
Gustave A. Wendt
BY
Carl H. Crawford
ATTORNEY

Patented Feb. 22, 1927. 1,618,562

UNITED STATES PATENT OFFICE.

GUSTAVE A. WENDT, OF SPOKANE, WASHINGTON.

MACHINE FOR ORNAMENTING LININGS.

Application filed May 23, 1925. Serial No. 32,525.

This invention relates to that class of machines which are designed for crushing or folding receptacle linings in an ornamental manner. Machines of this type are mostly used for ornamentally crushing or folding the linings to be used in caskets and it is of prime importance that the ornamental crush be uniform, irrespective of the type of crush used.

In accordance with my invention the goods are securely held in place prior to the adjustment necessary to form the crush, and subsequently thereto until the backing is stitched to the lining, thereby avoiding slippage of the goods.

A special feature of my invention resides in a mechanism affording a very wide range of adjustment whereby a greater variety of forms of ornamental crush may be made.

In addition to the variation of crush forms afforded by the adjustment of the machine, it is a feature to provide staggered groups of stitch location elements so that any one of the elements of said groups may be selected, thereby increasing the number of forms of crush.

A further feature consists in novel guides on the usual laterally adjustable slats, which guides perform the dual function of guiding adjustable pin bars and also acting as stitch locating elements.

It is a feature of my invention to slidably mount pin bars on the slats for adjustment of the pin bars into and out of a lining holding position, and to equip the pin bars with lining holding pins of such novel form and disposition that the pins will coact with the usual weight rods used to depress the lining between the peaks.

My invention has many other features and advantages which will be more fully described in connection with the accompanying drawings and which will be more particularly pointed out in and by the appended claims.

In the drawings:—

Fig. 1 is a plan view of one form of my machine showing the same in an open adjustment such as would be employed just before the lining is disposed thereon.

Fig. 2 is a similar view showing the machine in a closed adjustment such as is used to form the crush.

Fig. 3 is a sectional view on line 3—3 of Fig. 2 showing another view of the parts in the same adjustment shown in Fig. 2.

Fig. 4 is a sectional view on line 4—4 of Fig. 1, showing another view of the parts in the Fig. 1, adjustment.

Fig. 5 is a sectional view on line 5—5 of Fig. 4, showing the manner in which the spacing studs may be connected to variously limit opening adjustment to an extent less than the maximum adjustment.

Figs. 6 and 7 are plan views of a set of limiting strips.

Fig. 8 is a sectional view on line 8—8 of Fig. 4.

Fig. 9 is a sectional view on an enlarged scale showing the pin bars in the initial adjustment and with the lining disposed in place.

Fig. 10 is a similar view after the pin bars have been actuated into a lining holding position.

Like characters of reference designate similar parts throughout the different figures of the drawings.

As far as it is necessary to show a frame, the same includes frame guides 1 having on their inner faces suitable guide grooves 2. What I will term support slats 3, have reduced ends 4, shaped to slide in said grooves 2. The endmost slat 3′, is fixed to frame guides 1, but otherwise, the slats 3 are all of the same construction and operate in the same manner and may be multiplied in number as desired to increase the capacity of the machine without in any way modifying the operation. For convenience of illustration, I have only shown four slats. The frame guides 1, are rigidly connected by frame members 5. A pull bar 6, is connected with one of the slats 3, and is guided by frame members 7, secured to members 5. The cross section of slats 3, is clearly shown in Fig. 5, and the upper faces 8 are disposed flush with the tops of guides 1.

These slats 3, are adjustable laterally of their length into open or spaced relation as shown in Fig. 1, in which adjustment the lining is applied, or onto closed or crush adjustment as shown in Fig. 2, whereby the lining is puckered into the crushed form, as will be later described. I have employed the usual means for limiting the slats to a maximum open adjustment and said means may consist of flexible strips 9, suitably tacked

or otherwise secured at 10 to each of the slats 3, with a sufficient intermediate slack so that when a pull is exerted on bar 6, the slats 3 will be fully opened to the maximum extent and in uniformly spaced relation.

However, I have discovered that a wider range of style of crush may be afforded by varying the extent of opening movement of the slats to various spaced relations less than the maximum, and I will next describe the means shown for the performance of this function.

Each slat 3, at each end, is shown provided with a spacing stud 11 having a head 12. I have shown spacing strips 13 and 14 having connection devices that may be applied to these studs, and I preferably employ the female parts 15 and 16 of the ordinary glove fasteners for this purpose. In strip 13, the fasteners 15, are spaced apart a less distance than the fasteners 16 of strip 14. As many strips as desired, may be employed but in any event, any one of the strips would limit opening movement of the slats 3, to a lesser distance than the maximum strips 9. The strips are applied as shown in Figs. 1 and 5, and the glove fastener used, permits of the strip being easily snapped onto and off from the heads 12.

I will next refer to certain peak producing elements having the function of elevating portions of the lining to form peaks of the folds or crush, and which, in the present embodiment, also function as pin bar guides.

As shown, said elements are in the form of staples which may be driven into slats 3, and which project upwardly therefrom to the desired extent to form the hips of the crush, of whatever form I choose to make. Except near the ends of slats 3, said staples of each slat are disposed in groups that are arranged in staggered relation. I have shown three staples in each group and the staples 17 and 18, of each group are in alinement, transversely of the slats, the third staple 19, being in longitudinal alinement with staple 17, with respect to the length of the slat. I preferably dispose these staples at the same height for the reason that in addition to the foregoing functions, any one of or all, or any two of the staples of a group may serve as stitch locating elements, as will be later described. Now it will be seen that the groups of staples of alternate slats are in alinement, transversely of the slats, and that those of intermediate slats are also in the same alined relation with respect to each other so that all the groups will be in diagonal rows or staggered relation, considering the slats 3, as a whole, as will be clearly seen in Figs. 1 and 2. It will now be clear that when the slats 3 are disposed in different spaced relation, the diagonal alinement of the staples will be correspondingly changed, and as said staples not only form the peaks in the lining but also serve as stitch locating elements, it will now be readily apparent that a very wide range of style of crush can be formed. It may be stated that near the ends of the slats 3, single staples 20, are disposed.

Before proceeding with another phase of the machine, I wish to point out, as will be clearly seen in Figs. 1 and 2, that the spacing of the groups of staples in alternate slats is so arranged that when the usual weight rods 21, are disposed between the staple groups, the rods will fit fairly closely between opposing staples. Now the advantage of this arrangement will be obvious when viewing Figs. 9 and 10. from which it will be seen that the lining A, is depressed by the rods 21, in sharp abutting relation against the sides of the opposing staples. This not only adds to the attractiveness of any form of crush but it also facilitates insertion of the holding pins into the lining.

Between the staples of each group, is a stitch locating and peak producing element which, in the present construction is in the form of a large headed nail 22, the head being indicated at 23. These elements afford means whereby the lining can be stitched to the backing at points centrally of the staple groups. Thus, in each group, the stitching can be formed centrally or at extreme portions of the group, thereby greatly extending the range of crush styles available.

I will next describe my improved pin bars and pins and the novel features and functions thereof.

On each slat 3, are two pin bars 24. These bars are slidable on said slats 3, through the staples, as guides, and the bars 24, are adjustable longitudinally of the slats 3. One of the main advantages of these bars 24 is that they project upwardly from the top faces 8 of slats 3, a very considerable distance so that when the closing or crushing adjustment of slats 3 is effected, the heavy and sometimes rather stiff silk lining A, is afforded ample space between said bars 24, in which to descend toward the top faces 8 of slats 3. Thus, it will now be clear that the valleys formed by the weight rods 21, are not the lowest depressions in the lining.

Each bar 24, has a series of holding pins 25, and it will be clear that these pins are disposed at an angle to the vertical, the pins 25, of one bar all extending in one direction and the pins of the next adjacent bar 24 extending in a direction opposite to those of its companion bar.

Before describing the manner in which the pins 25 coact with the staples, I will first describe the novel means for shifting said bars 24 into and out of lining holding positions.

The bars 24, which in Fig. 2, are shown in a lining holding adjustment, are each provided on one end thereof with an L-shaped

holder 26 slidably engaged with a groove 27, of an actuating or adjusting rail 28, which is adjustable transversely on top of frame 1. The rail 28, is connected by hinges 29, to an actuator rail 30, connected by hinges 31, with frame 1. Hinges 31, are stop hinges and prevent rail 28, from being adjusted outwardly beyond the position shown in Fig. 4, the frame 1, preventing movement inwardly after rail 30 engages frame 1. Fig. 3, shows the bars 24, adjusted into a lining holding position and Fig. 4, shows the bars adjusted into a lining releasing position. The operator makes these adjustments by hand, by shifting the actuating means outwardly or inwardly, as will now be clear.

The arrangement is such that when the bars are in a releasing position, as shown in Fig. 4, the points of pins 25, will be disposed just within the bights of the staple guides, in which position, these guides form guards for the pin points and prevent the lining from becoming prematurely entangled with the pins. However, just as soon as the holding adjustment is made, as shown in Fig. 3, the obliquely disposed pin points project laterally from the staple guides into the lining to hold the latter down in position while the slats are open, and during closing movement of the slats, and until after the base has been stitched to the lining, as will later appear. This prevents slippage of the lining before the backing is stitched thereto. One reason why this is possible, is because the points of pins 25, are below the peaks of the fabric, and below the bights of guide staples 17 to 19, and hence these pin points are not in a position to interfere with adjusting the backing onto the crushed lining.

I will next describe the operation of my improved machine.

If the operator desires to form a crush of one character, with the slots in a full open position, he will first open the slats as fully as the straps 9 will permit. If a character of crush is to be made requiring a lesser spacing of the slats 3, than the maximum spacing, then the operator selects the particular stop or spacing strip 13 or 14, having the required space limiting devices, and snaps such strips on the spacing studs 11, at both ends of slats 3.

Assuming that the desired spacing has been determined, the slats 3 will first be opened accordingly and the actuating means will be moved to the position shown in Fig. 4, to adjust the pins 25 into a releasing position. The silk or other lining to be crushed is then disposed flat over the tops of the staple guides, with or without tension, no tension means being shown. Next, the rods 21 are disposed in position, as shown in Figs. 9 and 10, between each set of staples, or between alternate sets or groups thereof, dependent upon the type of crush to be made. These weight rods depress the lining between the groups of staples, as shown, forming the valleys of the crush, the staples and elements 22, forming the peaks or hips. It will be noted that in the position shown in Figs. 9 and 10, the weight rods 21 are not supported on the cloth, but on the tops of pin bars 24, and at a considerable distance above the slats 3.

Now with the material in the Fig. 9, position, it is next necessary to adjust the actuating means inwardly to the Fig. 3, position, to advance the pins 25, in opposite directions, with respect to adjacent bars, and into perforating engagement with the lining A, as shown in Fig. 10. Of course, in practice, these pins are very small in diameter, so as not to injure the lining, although for purposes of clear illustration I have exaggerated the size of these pins. However, in the pin holding adjustment shown in Fig. 10, it will readily be seen that the pins 25, engage the lining A, from relatively different angles and in close relation to rods 21, so that it would be practically impossible for the lining to become shifted out of its correct position.

With the lining thus held, the slats 3, are next closed, in order to form the crush or pucker. Then the base material B, is disposed on top of the lining. The base B, is next tacked or stitched to the now crushed lining at the desired points, dependent upon the style of crush being formed. In Fig. 10, I have indicated the stitching points at C and D, at points superimposed with respect to staples 19 and 17, the latter forming in this case, the stitch locating elements. However, the stitches may be taken abreast of elements 22, or only abreast of one staple, in accordance with the type of crush being made.

However, after the lining has been suitably stitched to the base B, then the actuating means is moved to adjust bars 24 and their pins 25 into the releasing position shown in Figs. 4 and 9, the rods 21 are withdrawn, and the lining is then free to be removed from the machine. It is customary to sew the edges of the base B to the lining A, on some kind of a sewing machine after the material has been removed from the crushing machine.

In Figs. 9 and 10, I have shown the lining A, free hand, for clearness of illustration, and to more definitely indicate fabric instead of structure. However, in actual practice, the weight rods 21, draw the lining taut and in straight lines down along the broad sides of the staples, which results in a very clean cut crush outline. Likewise, the lining is taut across the top of the staples and stitch locating elements.

I will next detail some of the different forms of crush I can make with this machine.

First, irrespective of the spacing of slats 3, variations in the form of crush can be made solely by more or less weight rods 21. If a full complement of rods is used, one rod in each and every space, then I would have a narrower crush form, transversely of the rods, with the hips and valleys closer together, than would be the case if rods were inserted in alternate spaces.

If the slats 3, are opened to the maximum allowed by straps 9, that will space the peaks or hips apart, transversely of the slats 3, to a maximum distance. Thus, when the slats are closed, to form the crush, the material intermediate the peaks, will be forced into a zig-zag or sinuous form, due to contraction of the material as a result of closing the slats. It will now be clear that if the slats are opened to an extent less than the maximum, there will be less material between the peaks, and when the slats are closed, there will be less material to contract, and hence, the contracted material will take a different form from that resulting from a maximum opening position of the slats.

Some kinds of material can be held in position by a single stitch abreast of each group of locating elements, and other kinds must be stitched at more than one point. However, in the event that I want to make a crush with only one stitch, at one point abreast of each group of locating elements, I preferably dispose these single stitches over the centrally disposed elements 23. By reason of the fact that these elements are somewhat enlarged the stitching operation is greatly facilitated because the heads are so easily located.

In most instances, the staple guides, in the performance of their function as stitch locating elements, are either used in pairs, or in triplicate, or one or more is used in combination with elements 23. I rarely use just one staple.

Now it will be noted that the triangular arrangement of the staples is different, with respect to adjacent slats, whereby I am able to obtain a zig-zag form of crush. For instance, suppose I stitch above all three staples in each group of the first slats 3, and follow this stitching scheme with the staples of the next slat, then it will be clear that I obtain a very distinct change of direction of the peaks. This follows from the fact that in Fig. 1, the nearest slat 3, to the reader, considering the view that of an actual operator, has the base of the staple triangle nearest the operator while in the next slat 3, the base of the staple triangle is farthest from the operator. It will also be clear that I can further vary the crush by varying the stitch location points, as regards the staples.

It is believed that the device of my invention will be clearly understood from the foregoing description, and while I have shown one specific form of my invention, I do not wish to be limited thereto except for such limitations as the claims may import.

I claim:—

1. A machine for ornamentally crushing a lining, comprising, slidably adjustable support slats having projecting guides for supporting staggered portions of the lining in elevated peaks and said slats being spaced apart from each other, weight rods disposed between said guides to depress portions of the lining between said peaks, pin bars adjustable in said guides and having pins engageable with the lining when said bars are adjusted into a pin engaging position when said slats are closed to crush the lining and during attachment of a backing to said lining, said bars being retractively adjustable to withdraw said pins from the lining after the crush of the latter is secured by said backing.

2. A machine for ornamentally crushing a lining, comprising, slidably adjustable support slats having guides, and pin bars slidable on said slats and through said guides and having pins movable into and out of lining holding positions upon actuation of said bars.

3. A machine for ornamentally crushing a lining, comprising, slidably adjustable support slats having guides, bars movable in said guides from lining holding to releasing positions and vice versa, and pins mounted on said bars to project from said guides when said bars are in a holding position and movable into said guides when said bars are in a releasing position.

4. A machine for ornamentally crushing a lining, comprising, slidably adjustable support slats having guides, bars adjustable in said guides and having oppositely extending lining holding pins, and devices for adjusting said bars in opposite directions into and out of pin holding positions.

5. A machine for ornamentally crushing a lining, comprising, laterally adjustable support slats having guides, bars adjustable in said guides longitudinally along said slats and said bars having oppositely extending lining holding pins, and means for longitudinally adjusting said bars in opposite directions into and out of pin holding positions.

6. A machine for ornamentally crushing a lining, including laterally adjustable support slats, means limiting movement of said slats to a maximum spacing adjustment, and means limiting movement of said slats to degrees of spacing adjustment less than a maximum adjustment.

7. A machine for ornamentally crushing a lining, including laterally adjustable support slats provided with spacing studs, and a series of slat spacing strips having connecting devices attachable to said studs, and the connecting devices of different strips being differently spaced, whereby said slats will be held to any predetermined spaced relation dependent upon the strip attached to said studs.

8. A machine for ornamentally crushing a lining, comprising, laterally adjustable slats, pins carried by said slats and disposed at an oblique angle to said slats to hold down and anchor the lining at points below the peaks of the latter and while the slats are open and holding said lining after the slats have been closed to form the crush.

9. A machine for ornamentally crushing a lining, comprising, adjustable slats each having sets of stitch locating elements disposed in groups with a stitch locating element centrally disposed in each group.

10. A machine for ornamentally crushing a lining, comprising, adjustable slats each having sets of stitch locating elements disposed in groups triangularly arranged, the triangular arrangement of the groups in one slat being different from that of the next adjacent slat.

11. A machine for ornamentally crushing a lining, comprising, adjustable slats having staples forming the hips of the crush and said staples being disposed in rows with their broad sides in parallel relation, weight rods adapted to be disposed between said rows to depress the lining downwardly between the broad sides of said staples, and said rows of staples being sufficiently closely spaced to admit said rods with a minimum of clearance whereby the lining will be drawn tautly and sharply abreast of the broad sides of said staples, anchoring pins for holding said lining, and means for moving said pins through said staples and into the tautly drawn lining.

12. A machine for ornamentally crushing a lining, comprising, laterally disposed frame bars, laterally adjustable slats slidable in said bars, pin bars slidable longitudinally on said slats, and devices carried by said frame bars and slidably connected with said pin bars for longitudinally adjusting the latter irrespective of the position of said slats with respect to said frame bars.

13. A machine for ornamentally crushing a lining, comprising, laterally disposed frame bars provided with grooves on their inner faces, slats having their ends slidable in said grooves, pin bars longitudinally adjustable on said slats, adjusting rails hinged to said frame bars and slidably connected with said pin bars to adjust the latter on said slats irrespective of the adjusted position of the latter.

14. A machine for ornamentally crushing a fabric, comprising, a support having a fabric peak forming element, an anchoring pin, and means for moving and causing said pin to enter and hold the fabric at a point below the peak formed by said element.

15. A machine for ornamentally crushing a fabric, comprising, a supporting structure having fabric peak forming elements, means for forming fabric vales between the peaks, inclined anchoring pins, and means for inserting said pins into anchoring relation with the fabric between the peaks and vales thereof.

16. A machine for ornamentally crushing a fabric, comprising, a slat having an upstanding guide staple, a pin bar slidable through said guide staple and having an upwardly inclined fabric anchoring pin, and the point of said pin being below the bight of said staple and being movable with said bar into a fabric engaging position laterally of said staple or into a fabric releasing position with said point between the limbs of said guide staple.

17. A machine for ornamentally crushing a fabric, comprising, fabric peak forming elements, a rod closely fitting between said elements to draw the fabric down between and in close relation abreast of said elements, fabric anchoring pins in angular relation to said elements, and mechanism for advancing said pins through opposing sides of the fabric and into overhanging relation to said rod.

In testimony that I claim the foregoing as my own, I hereby affix my signature.

GUSTAVE A. WENDT.