

Dec. 18, 1923.

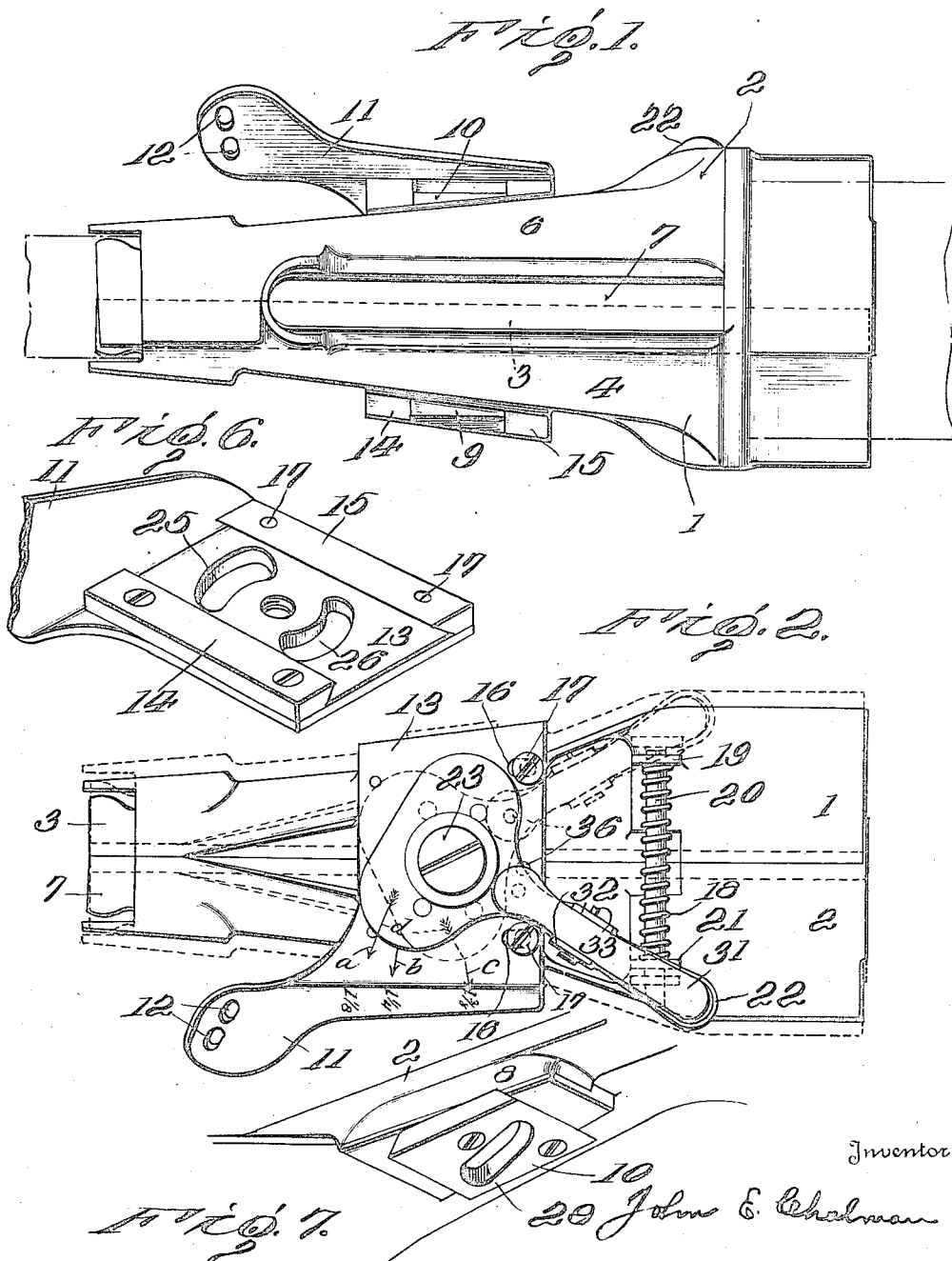
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J. E. CHALMAN

ADJUSTABLE CENTER PLAIT FOLDER

Filed Nov. 7, 1919

2 Sheets-Sheet 1



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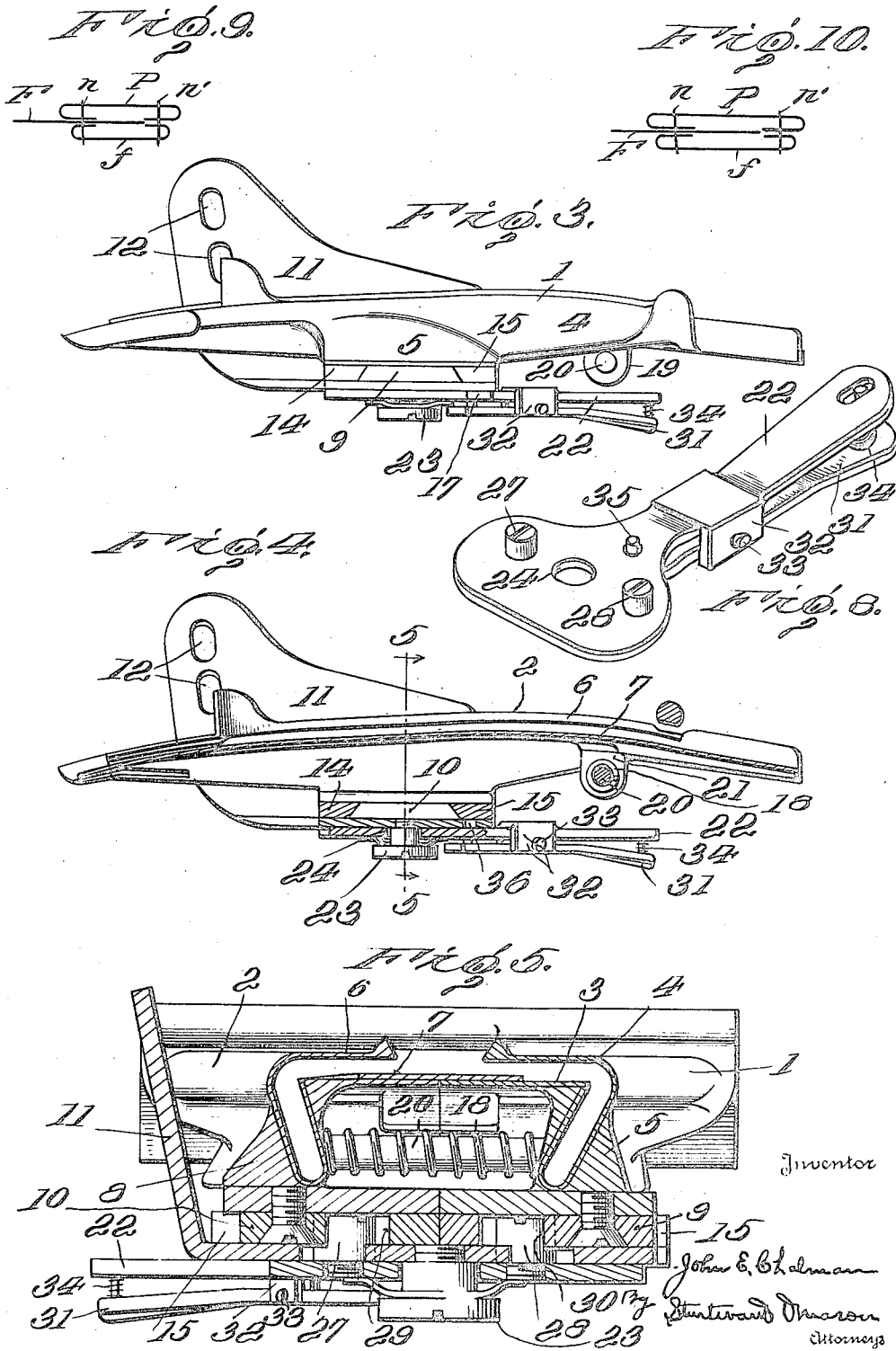
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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE.

JOHN E. CHALMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO UNION SPECIAL MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ADJUSTABLE CENTER-PLAIT FOLDER.

Application filed November 7, 1919. Serial No. 336,463.

To all whom it may concern:

Be it known that I, JOHN E. CHALMAN, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Adjustable Center-Plait Folders, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

The invention relates to new and useful improvements in folders for sewing machines, and more particularly to an adjustable folder for folding and directing the center plait or facing strip which is to be stitched to the outside of a shirt front.

In stitching facing strips or plaits on machines of the above character, it is often desirable to change the width of the facing strip, sometimes for the purpose of maintaining the margin between the line of stitching and the folded edge of the strip uniform, and sometimes solely for the purpose of producing facing strips of different widths.

An object of the present invention is to provide a folder for folding and directing the facing strip or center plait, which is not only bodily adjustable for producing facing strips of different widths, but wherein the adjustment of the folder may be positively brought about by manually actuated means which may be shifted for adjusting the folder to different predetermined set positions.

In the drawings which show by way of illustration one embodiment of the invention:

Figure 1 is a top plan view of a folder embodying my improvement,

Fig. 2 is a bottom plan view of the same,

Fig. 3 is a side view of the folder,

Fig. 4 is a vertical sectional view longitudinally through the center of the folder,

Fig. 5 is a transverse sectional view on the line 5-5 of Fig. 4,

Fig. 6 is a perspective view of the supporting shank with all the parts of the folder removed therefrom,

Fig. 7 is a perspective view of a portion of the folder and showing the parts underneath the same which connect directly with the supporting shank,

Fig. 8 is a perspective view of the shift-

ing lever for adjusting the sections of the folder,

Fig. 9 is a diagrammatic view showing the article being stitched,

Fig. 10 is a similar view but showing a facing strip or plait of wider width directed to needles of a wider gage.

In the patent granted Jesse J. Heap on April 4, 1922, No. 1,412,001, there is shown and described a folder for sewing machines, which is especially adapted for adjustment so as to direct facing strips or plaits to needles of different gages. In this adjustable folder shown in the patent referred to, the two sections of the folder are bodily shiftable relative to each other. The present invention is directed broadly to a folder of the general type shown in this patent, and consists in so mounting the sections of the folder that each section may be shifted on its supporting shank and providing means which may be manually controlled for positively shifting these sections toward and from each other. This shifting means includes a lever having projections which cooperate with cam grooves formed in plates attached respectively to the sections of the folder. The projections working against one of the walls of the grooves positively draws the two sections of the folder toward each other, and a spring operating upon the two sections serves to move the same away from each other. Means is also provided for locking the lever in certain set positions so that the folder may be adjusted through the manipulation of the hand lever in certain predetermined set positions.

Referring more in detail to the drawings, my improved folder consists of two main sections numbered 1 and 2 in the drawings. The section 1 consists of a lower guiding plate 3 and an upper guiding plate 4. These guiding plates are rigidly secured to a supporting base 5. The guiding plates are shaped so as to receive the strip with the edge portion flat and in the same plane as the body of the strip, and gradually turn said edge portion underneath the body portion of the strip. The section 2 of the folder consists of an upper guiding plate 6 and a lower guiding plate 7. These guiding plates are carried by a supporting base 8, and said guiding plates are shaped so as to fold underneath the other edge portion of

the strip. Fixed to the supporting base 5 is a plate 9 which is dove-tailed in cross section. Likewise fixed to the supporting base 8 is a plate 10 which is dove-tailed in cross section. The sections of the folder are carried by a bracket arm 11 which is provided with openings 12 through which screws are adapted to be inserted for securing the bracket to the machine. This bracket arm 11 is formed with a horizontal section 13. Mounted on this horizontal section 13 are spaced bars 14 and 15, the edges of which are undercut so as to form a dove-tailed recess adapted to receive the plates 9 and 10, which are respectively secured to the sections of the folder. As clearly shown in Fig. 2, the horizontal section 13 is formed with elongated slots 16 through which screws 17 pass, and these screws 17 are threaded into the bar 15. This provides a means whereby the bar 15 may be adjusted toward and from the bar 14 so as to take up any wear between these bars, and the plates 9 and 10, respectively.

The bars 14 and 15 extend in a direction at right angles to the longitudinal axis of the folder, and as the plates 9 and 10 carrying the sections of the folder, slide back and forth in the recess formed by these bars 14 and 15, the sections of the folder will move bodily and in parallelism toward and from each other. It is not thought necessary to describe in detail the specific construction of the folder sections other than that these folder sections, as noted above, are formed so as to turn underneath the opposite edges of the facing strip or plait. When the sections of the folder are adjusted away from each other, then the capacity of the folder is increased and the folded facing strip passing therefrom will be of greater width. It will be readily seen therefore, that the folder may be adjusted by the shifting of the two sections thereof toward and from the center line so as to increase or decrease the width of the facing strip or plait.

The sections of the folder are moved outwardly away from each other by means of a spring 18. The section 1 of the folder is provided with a downwardly extending ear 19 in which is mounted a rod 20. The section 2 of the folder also has a downwardly projecting ear 21 through which the rod 20 freely extends. The spring 18 encircles this rod and bears at its opposite ends respectively, against the ears 19 and 21. This spring is normally under compression and operates to press the ears 19 and 21 away from each other and thus force the two folder sections away from each other.

The folder sections are drawn toward each other by means of a hand lever 22. This hand lever is secured to the horizontal section 13 of the bracket arm 11 by means of a screw 23. The screw passes through an

opening 24 in the lever and is threaded into the horizontal section 13. The lever 22 is disposed below the horizontal section 13 of the bracket arm 11. This horizontal section of the bracket arm 11 is formed with two segmental grooves 25 and 26. These segmental grooves are formed about the center of the opening in the horizontal section of the bracket arm as a center. The lever 22 is provided with two projections 27 and 28. These projections are respectively adapted to extend upwardly through the slots 25 and 26. The plate 10 is formed with a slot at 29, which slot is inclined to the longitudinal axis of the folder. The plate 9 is formed with a similar slot 30. The projecting pins 27 and 28 extend respectively into the slots 29 and 30. When the hand lever 22 is turned about its pivotal support, the projections 27 and 28 working in the slots 29 and 30 will simultaneously shift the sections of the folder. When the lever is turned in a clockwise direction as viewed in Fig. 2, the projections 27 and 28 working in the inclined slots will simultaneously draw the two sections of the folder toward each other, compressing the tension spring 18. On the other hand, when this lever is turned in the opposite direction, the spring will force the two sections of the folder outwardly, the projections 27 and 28 determining the distance to which said sections are moved away from each other, and this in turn is determined by the amount of swing given to the lever 22. As a means for locking the hand lever in adjusted positions, I have provided a swinging latch 31. Said lever is provided with depending flanges 32 and with a pivot pin 33 extending through the latch, the flanges serving as a means for pivotally supporting the latch. A spring 34 at the outer end of the latch serves to normally depress the inner end of the latch which is provided with a locking pin 35 adapted to engage openings 36 formed in the horizontal section 13 of the bracket arm 11. The horizontal section of the bracket arm is provided with an arrow head *a* which indicates a setting of the folder for a finished facing strip of an inch and an eighth in width. The arrow head *b* indicates a setting of the folder to form a finished facing strip of an inch and a quarter in width, while the arrow head *c* indicates a setting of the folder for forming a facing strip of an inch and three-eighths in width. On the lever is the tail of an arrow *d*, and when this arrow tail is brought into line with the arrow head, then the folder is properly set for the widths stated, and the locking pin 35 is adapted to engage an opening in the horizontal section of the bracket arm for securing the sections of the folder in these predetermined set positions.

Of course it is obvious that the folder may

be made so as to be adjusted for any desired widths of facing strips, and the dimensions above stated are purely as an example to aid in the understanding of the invention.

In Figures 9 and 10 of the drawings are shown a body fabric indicated at F to which a facing strip or center plait P is attached. The under facing strip is indicated at f. The lines of stitching are indicated at n and n'. It will be noted that in Fig. 9 the facing strip is of less width than in Fig. 10, and the purpose of the folder as fully stated above, is to fold and direct facing strips of different widths as indicated in these figures. The needle gage may be changed if desired or may remain substantially constant. As shown in the drawings it is varied.

It is obvious that minor changes in the details of construction and the arrangements of the parts may be made without departing from the spirit of the invention as set forth in the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:—

1. A folder for sewing machines including cooperating folding and guiding sections for directing and folding the edges of a facing strip, a supporting bracket on which said sections are mounted for bodily adjustment toward and from each other, a spring for normally forcing said folder sections away from each other, manually actuated means for positively moving said folder sections toward each other, and a locking catch associated with said manually actuated means for locking the same in set positions.

2. A folder for sewing machines including cooperating guiding and folding sections for folding and directing a facing strip, means for independently supporting said folding sections, whereby the same may be bodily adjusted in a direction at right angles to the longitudinal axis of the folder, a manually shiftable lever, said folding sections and said lever having cooperating devices for shifting the folded sections simultaneously toward and from the center line of the folder and means for locking said sections in set positions.

3. A folder for sewing machines including cooperating guiding and folding sections for folding and directing a facing strip, a bracket arm on which said folder

sections are independently mounted for bodily adjustment in a direction at right angles to the longitudinal axis of the folder, a manually shiftable lever, devices carried thereby for shifting the folder sections simultaneously toward and from the center line of the folder, and a locking catch for securing said lever in set positions.

4. A sewing machine including in combination cooperating folding and guiding sections for folding and directing a facing strip, a bracket arm having a dove-tailed recess extending in a direction at right angles to the longitudinal axis of the folder, dove-tailed plates attached respectively to the folder sections and fitting said dove-tailed recess, each of said plates having an incline slot, and a lever pivoted to said bracket arm and carrying projections adapted to engage respectively in said slots whereby the swinging of said lever positively shifts the folder sections.

5. A sewing machine including in combination cooperating folding and guiding sections for folding and directing a facing strip, a bracket arm having a dove-tailed recess extending in a direction at right angles to the longitudinal axis of the folder, dove-tailed plates attached respectively to the folder sections and fitting said dove-tailed recess, each of said plates having an inclined slot, a spring normally operating to separate said folder sections, and a lever carrying projections extending into said slots for positively drawing said sections toward each other against the tension of the spring.

6. A sewing machine including in combination cooperating folding and guiding sections for folding and directing a facing strip, a bracket arm having a dove-tailed recess extending in a direction at right angles to the longitudinal axis of the folder, dove-tailed plates attached respectively to the folder sections and fitting said dove-tailed recess, each of said plates having an inclined slot, a spring normally operating to separate said folder sections, a lever carrying projections extending into said slots for positively drawing said sections toward each other against the tension of the spring, and a locking catch carried by the lever for holding said lever in set positions.

In testimony whereof, I affix my signature.

JOHN E. CHALMAN.