(No Model.)

C. F. LITTLEJOHN.

FOLDER FOR COVERING STAYS.

No. 345,793. Patented July 20, 1886.

Fig. 1.

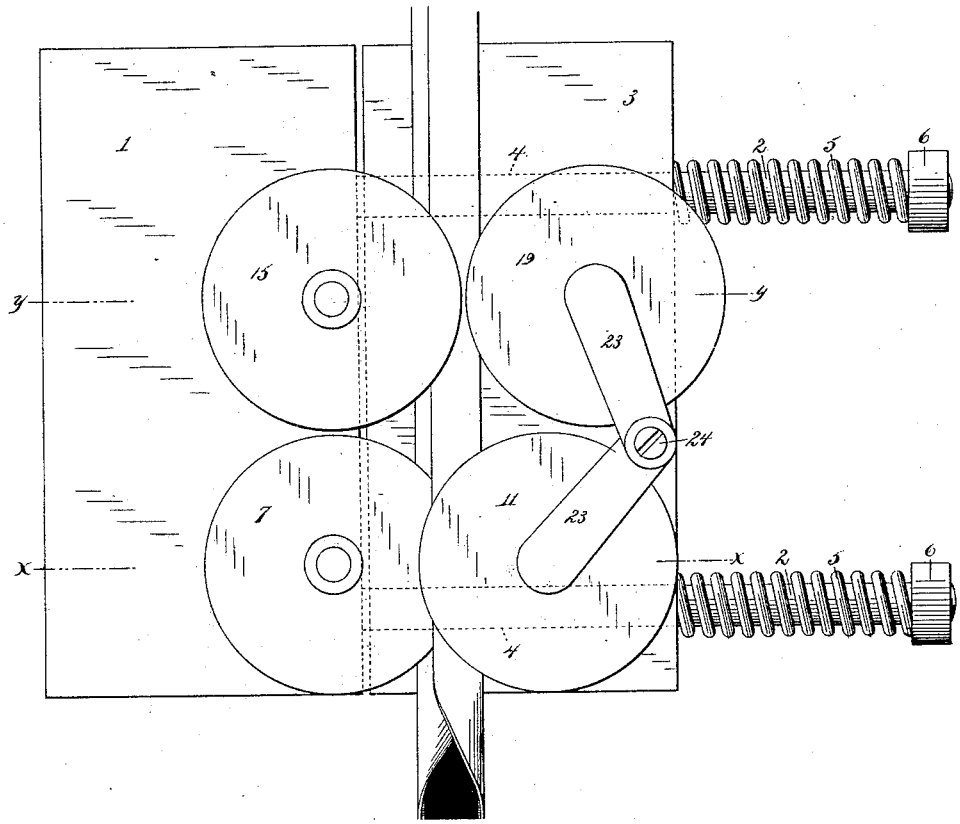


Fig. 2.

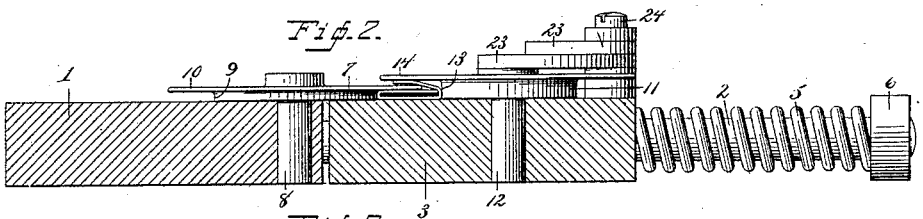
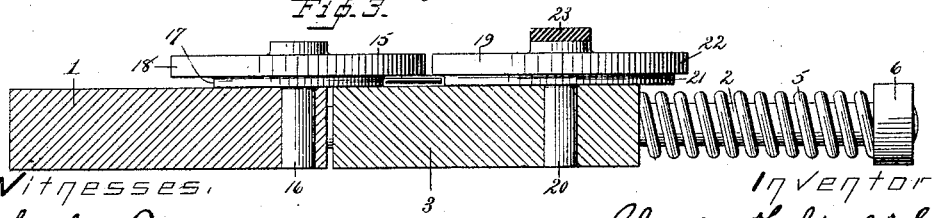


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES F. LITTLEJOHN, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO WILLIAM A. NETTLETON, OF SAME PLACE.

FOLDER FOR COVERING STAYS.

SPECIFICATION forming part of Letters Patent No. 345,793, dated July 20, 1886.

Application filed March 2, 1886. Serial No. 193,812. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. LITTLEJOHN, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Folders for Covering Stays; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to folders for strips of cloth, paper, and similar material, and is especially adapted for use in covering continuous flat springs or strips of wire, or separate corset or dress stays.

The object of my invention is to provide a device of this class which shall be simple in construction, durable, and practically impossible to get out of repair, which will, in brief, accomplish every result that has heretofore been accomplished, and in a better manner, and will, in addition, firmly hold the covering-strips at the sides of the stays so that the cloth cannot become pressed out, thus insuring that the covered stays shall be of uniform width.

Heretofore in all devices of this class the construction has been such that should a stay a trifle wider than the others happen to pass into the machine the covering material was invariably cut or torn, and frequently serious damage was done to the machine.

In order to avoid the objections to devices now in use, and to provide a construction which will hold the cloth firmly at the sides of the stays, but will yield sufficiently to prevent cutting or tearing of the covering-strips should a wider stay pass in, I have devised the novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used upon the drawings to indicate the several parts of the device.

Figure 1 is a plan view of the device complete; Fig. 2, a transverse section of the bed-plates on the line *x x*, the lower rollers, as seen in Fig. 1, being shown in elevation; and Fig. 3 is a similar section on the line *y y*, the upper rollers, as seen in Fig. 1, being shown in elevation.

1 indicates a bed-plate, which is permanently fixed in any manner to a suitable frame-work or table. (Not shown.) 2 indicates guide-rods which project outward from one side of this bed-plate, and 3 a bed-plate having holes 4 passing through it, (see dotted lines in Fig. 1,) which receive the guide-rods, so that plate 3 is free to move on said rods. The position of these two plates in use is clearly indicated in the drawings—that is to say, they lie parallel with each other in a horizontal plane, plate 3 being held firmly in contact with plate 1 by heavy coiled springs 5 upon the guide-rods outside of p'ate 3, said springs being detachably held in position on the rods by collars 6, or in any suitable manner.

7 indicates a roller carried by a journal, 8, which is firmly fixed in plate 1. The essential features of construction of this roller are that it shall have a shoulder, 9, and an overhanging flange, 10.

11 indicates the corresponding roller to 7, which is carried by a journal, 12, secured in bed-plate 3. This roller also is provided with a shoulder, 13, and an overhanging flange, 14, similar in shape to the flange and shoulder upon roller 7, excepting that the shoulder is higher and extends above the flange on roller 7, and the flange on roller 11 extends over the flange on roller 7, ample space being left between said flanges to receive a single fold of the covering-strip. These two rollers and the movable plate by which one of them is carried are the essential features of my device. In practice, however, I ordinarily use another pair of rollers to supplement the action of rollers 7 and 11.

15 is a roller carried by plate 1, and located directly forward of roller 7, the journal 16 of roller 15 being in a horizontal line with the journal of roller 7.

17 indicates the shoulder of roller 15, and 18 its overhanging flange. Directly opposite to roller 15, upon plate 3, is another roller, 19, carried by journal 20, fixed in plate 3.

21 indicates the shoulder, and 22 the overhanging flange of this roller. The exact loca-

tion of these rollers upon the plates is not a matter of vital importance. I preferably, however, place the journals of rollers 7 and 15 near the edge of plate 1, so that said rollers will project beyond the edge of said plate and over plate 3. The object of this arrangement is to insure that the work shall always pass over plate 3, so that neither the strip nor stay will be in danger of being caught in the opening between said plates. The shoulders upon rollers 15 and 19 are of the same height, being made sufficiently high to permit the covered stay or spring to pass freely under them.

In practice the left fold of the covering-strip is turned down upon the stay first, then the other strip turned down upon that. For this reason I preferably make the flange upon roller 15 wider than upon roller 19, so that the flange upon 15 will extend considerably more than half-way across the strip, roller 19 being so located upon plate 3 as to give the desired space between shoulders 17 and 21. The functions of rollers 15 and 19 are solely to close up the cloth at the edge of the stay or spring, provided that this shall not have been perfectly accomplished by rollers 7 and 11. The height of the shoulders of these two rollers permits the covered stay or spring to pass under the flanges without friction, but at the same time holds the cover in place upon the top.

In practice rollers 7 and 15 need not be made detachable from their journals. Rollers 11 and 19, however, are preferably made detachable. 23 indicates arms which turn freely upon a standard, 24, and act to hold rollers 11 and 19 upon their journals. To detach said rollers from their journals it is simply necessary to turn arms 23 out of the way, when they may be readily lifted off. To remove plate 3 from the guide-rods, collars 5, and the springs have to be removed, which permits said plate to be slipped entirely off.

In practice I shall probably use in connection with this folder, forming or breaking down rollers, which bend the strip into trough shape before it enters the folder. After leaving the folder the covering-strip passes between pressing-rollers, which press the folds down firmly. Should it be desired to have the covering-strip adhere to the spring or stays, as is ordinarily the case, the upper side of the strip is covered with paste or glue in any suitable manner.

As the pasting of the strip and the forming and pressing rollers form no portion of my invention, it is not deemed necessary to illustrate them in this application. They are, however, fully illustrated and described in the application of William A. Nettleton and Charles F. Littlejohn, Serial No. 187,505, filed January 2, 1886. It should be stated, however, that my present invention is complete in itself, and may be used without pasting-rollers, forming-rollers, or pressing-rollers.

The operation of my invention is as follows: In starting, the stay is placed in the middle of the strip, the left fold of the strip turned down over it and passed under roller 7, the right fold being passed over the flange of roller 7 and under the flange of roller 11. The strip is then pushed forward and both folds are passed under the flanges of rollers 15 and 19, all of which is clearly illustrated in the figures of the drawings.

Any suitable feeding mechanism may be used. When pressing-rollers are used, they ordinarily serve the additional purpose of drawing or feeding rollers.

It will be apparent that the details of construction may be considerably varied without departing from the spirit of my invention.

I claim—

1. In a folder for covering stays, plates 1, and 3, in combination with rollers 7 and 11, journaled on said plates, said rollers having shoulders adapted to hold the covering-strip firmly at the edges of the stays, and flanges 10 and 14, the shoulder of one roller being higher than the other, and its flange extending over the flange of the other roller, as and for the purpose set forth.

2. In a folder for covering stays, a fixed plate and a roller journaled thereon and provided with a shoulder, 9, and flange 10, in combination with a movable plate and a roller thereon, having a shoulder, 13, and a flange, 14, constructed and arranged as described, whereby in use a fold of the covering-strip is turned down upon the stay by the first roller, and the other fold is turned over it by the second roller, the second fold passing between the flanges of said rollers, and the covering-strips being held firmly at the edges by shoulders 9 and 13.

3. In a folder for covering stays, plate 1, carrying roller 7, by which the first fold is turned, and plate 3, carrying roller 11, by which the second fold is turned, both of said rollers having shoulders between which the strip must pass, in combination with rollers 15 and 19, also provided with shoulders, between which the strip must pass, and with overhanging flanges, whereby the folds are held in place.

4. The combination, with a fixed plate having rollers provided with shoulders and flanges, as shown, journaled near the edge thereof, of a movable plate having detachable rollers, also provided with shoulders, and flanges journaled thereon, and pivoted arms 23, whereby said detachable rollers are held in place.

5. The fixed plate having guide-rods extending therefrom, and a movable plate adapted to slide on said guide-rods, in combination with folding-rollers having shoulders and flanges secured to said plates, and springs 5, whereby the movable plate is held in operative position.

6. In a folder for covering stays, plate 1,

having rollers 7 and 15, provided with shoulders and flanges, as shown, said shoulders and flanges projecting over the edge of said plate, in combination with a movable plate, 3, having rollers provided with similar shoulders and flanges, whereby in use the strip to be covered passes over the surface of plate 3, and at a distance from the edge of said plate.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES F. LITTLEJOHN.

Witnesses:
A. M. WOOSTER,
C. E. RUGGLES.