June 17, 1930. A. C. WISNER 1,764,920

WELT LOCK FRAME

Filed March 3, 1928

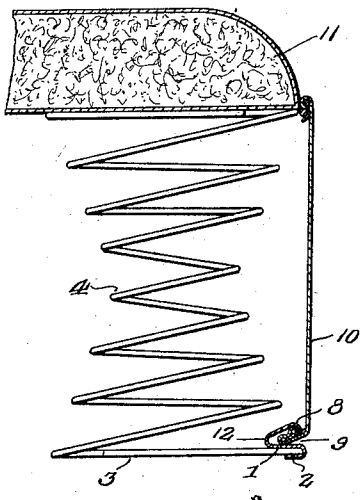


Fig. 1.

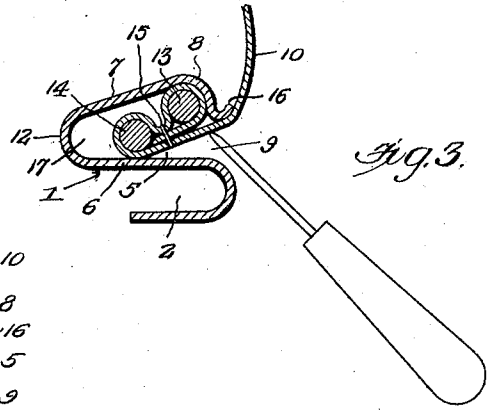
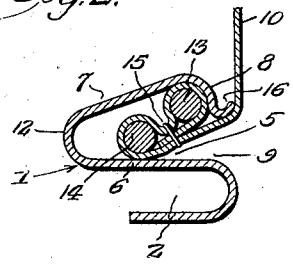


Fig. 3.

Fig. 2.



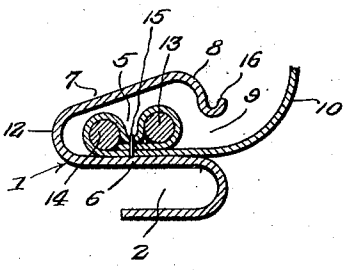


Fig. 4.

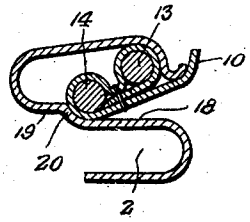


Fig. 5.

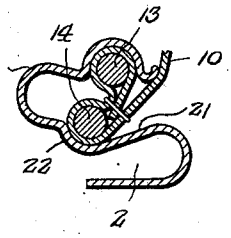


Fig. 6.

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UNITED STATES PATENT OFFICE

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WELT-LOCK FRAME

Application filed March 3, 1928. Serial No. 258,903.

The invention relates to a welt lock frame for spring seats and analogous spring structures.

The object of the present invention is to improve the construction and to simplify and make easy the removal of the upholstery or the welt lock frame by providing a welt lock frame having a space in rear of the lock welt which will permit the lower portion of the lock welt to be pushed back sufficiently to withdraw the upper portion from engagement with the front and top walls of the pocket of the welt lock frame so that the welt lock may be brought down flatwise against the horizontal bottom wall of the pocket and slipped out of the welt lock frame edgewise with relation to the restricted front entrance opening.

A further object of the invention is to provide a welt lock base frame of S shape and having an outwardly opening groove or channel forming a pocket to receive a lock welt at the lower edge of a curtain or apron and adapted to permit the lock welt to be readily introduced into it and securely retained therein in engagement with the walls of the pocket by the strain or pull exerted by the curtain or apron.

A further object of the invention is to provide a lock welt frame having an outwardly opening groove or channel forming an inwardly or rearwardly tapered pocket having a constricted entrance opening adapted to permit a lock welt having greater width than thickness to be inserted in the pocket through the constricted entrance opening in an edgewise position and to be turned within the pocket into a position substantially cross-wise with relation to the entrance opening, whereby it will be prevented from being accidentally withdrawn from the pocket to lock the lower edge of the curtain or apron to the base frame.

Another object of the invention is to enable the lock welt to be readily brought to a substantially horizontal position edgewise with relation to the constricted entrance opening by a needle or awl inserted through the entrance opening for engagement with the upper portion of the lock welt.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and set forth in the claims appended hereto, it being understood that various changes in the form, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the drawing:

Fig. 1 is a vertical sectional view of a portion of a spring seat provided with a welt lock frame constructed in accordance with this invention.

Fig. 2 is an enlarged detail sectional view of the welt lock.

Fig. 3 is a similar view showing the curtain or apron in a loose or slack condition and illustrating the manner of introducing an awl into the pocket for pushing the lock welt into the rear space of the pocket.

Fig. 4 is an enlarged detail sectional view showing the lock welt brought down flatwise against the horizontal bottom wall of the pocket of the lock welt frame.

Fig. 5 is an enlarged detail sectional view illustrating another form of the welt lock frame.

Fig. 6 is an enlarged detail sectional view illustrating a slightly different welt lock frame from that shown in Fig. 5.

In the accompanying drawing, in which is illustrated the preferred embodiment of the invention, 1 designates an S-shaped lock welt base frame constructed of sheet metal and having a lower inwardly facing groove or channel 2 in which is clamped the lower convolution 3 of a spring 4. The S-shaped lock welt frame 1 in practice extends around the front, sides and back of the spring seat or other spring construction and has an upper outwardly facing groove or channel 5 formed by an approximately horizontal bottom wall 6, an inclined top wall 7 and a depending front

wall 8 which extends downwardly from the front of the top wall and is spaced from the front portion of the bottom wall to form a constricted entrance opening 9, through which the welt at the lower edge of the curtain or apron 10 is introduced while the welt is in substantially the horizontal position and is arranged edgewise with relation to the constricted entrance opening. Upholstery 11 is supported by springs, one being shown in Fig. 1 of the drawing and the curtain or apron depends from the upholstery, as clearly indicated in the said figure, and may be connected with the upholstery in any suitable manner. The inclined top wall 7 is curved downwardly at the back of the pocket, forming a curved rear wall 12, and the pocket tapers inwardly or rearwardly, as clearly illustrated in the drawing. The welt is introduced into the pocket formed by the groove or channel 5 of the lock welt base frame, while the curtain or apron is in a loose or slackened condition resulting from pressure upon the spring 4, and when the spring is released the curtain or apron will be drawn taut and the lock welt will be held in a cross-wise position with respect to the constricted entrance opening, as illustrated in Figs. 2 and 3 of the drawing, and will be effectually prevented from accidentally leaving the pocket. No claim is made in the present application to the lock welt which forms a part of the subject matter of the said Lovell application, and while only one form of lock welt is illustrated in the accompanying drawing, either form of lock welt shown and described in the said application or any equivalent lock welt having a greater width than thickness, may, of course, be employed.

The lock welt illustrated in the accompanying drawing is formed by a pair of cylindrical welt cords 13 and 14. The material at the lower marginal edge of the curtain or apron is coiled or wrapped around the upper or front welt cord 13, being slanted upwardly from a point slightly below the upper welt cord and then extended around the front and over the top and around the back of the upper welt cord 13. It is then extended rearwardly over the lower welt cord 14 and then downwardly or forwardly around the front of the same. The three thicknesses of the material of the apron or curtain at the space between the upper and lower welt cords 13 and 14, are secured together by one or more rows of stitching 15. The curtain or apron extends upwardly and outwardly at an inclination from the bottom of the inner or rear welt cord 14 and is substantially straight between the bottom of the lower welt cord and the lower edge of the front wall 8 of the groove or channel 5, so that pull is upon the lower portion of the locking welt, which is drawn to an inclined position substantially crosswise of the constricted entrance opening 9 and it will be impossible for the lock welt to pass through the constricted opening 9 while the said lock welt is in such crosswise position.

The curtain or apron bears against the lower edge of the front wall of the pocket and extends upwardly therefrom to the upholstery and the said lower edge of the front wall of the pocket is curved outwardly and upwardly, forming a curved flange 16 which presents an outer convex bearing surface to the curtain or apron. This convex bearing surface is smooth and prevents any chafing, cutting or wear of the curtain or apron. It will be seen that the locking welt formed by the welt cords 13 and 14 is of greater width than thickness, and that the locking welt will readily pass through the constricted opening when it is arranged edgewise with relation to the same, and that it will be prevented from passing through the constricted entrance opening when the lock welt is arranged crosswise to the constricted entrance opening.

In order to enable the lock welt to be readily removed from the pocket without injury to the lock welt base frame or to the upholstery, the lock welt base frame is constructed of greater width than the lock welt to provide a rear extension of the pocket and to form a rear space 17 located in rear of the lock welt when the latter is arranged in its normal position crosswise of the constricted entrance opening, as illustrated in Figs. 2 and 3 of the drawing. This rearward extension of the pocket of the lock welt frame and the space formed by the extension permits the lock welt to have a sliding and turning movement within the pocket and to be pushed inwardly and rearwardly from the position illustrated in Figs. 2 and 3 of the drawings and brought down flatwise against the horizontal bottom of the pocket. This may be readily accomplished by inserting a needle or awl through the constricted entrance opening of the pocket and engaging the needle or awl with the upper portion of the lock welt. When it is desired to remove the lock welt from the pocket of the lock welt frame, the curtain or apron is slackened or loosened as illustrated in Fig. 3 of the drawing, by compressing the spring. This will enable the needle or awl when inserted in the upper portion of the lock welt to move the same gently inwardly or backwardly, and the lock welt may be readily brought to the flatwise position illustrated in Fig. 4 of the drawing. This will enable the lock welt to be readily slipped out of the lock welt frame. It is only necessary to withdraw a portion of the lock welt from the lock welt base frame, and

even when the curtain is fully trimmed in the starting or removing of a very small section of the welt by the means just described will enable the removal of the welt to be continued until the entire lock welt is withdrawn from the base frame without any further insertion of the needle or awl and without injury to either the frame or the curtain.

The depending front wall of the pocket is curved to present a concave inner face which forms a seat for the upper front portion of the locking welt and the upper portion of the locking welt fits snugly in the seat while the lower portion of the locking welt bears against the horizontal bottom wall of the pocket, as clearly shown in Figs. 2 and 3 of the drawing, and the tension or strain on the curtain or apron will maintain the locking welt normally in this position and will prevent the locking welt from accidentally leaving the pocket.

In Fig. 5 of the drawings is illustrated another form of welt lock base frame in which the bottom of the groove or channel is composed of a substantially horizontal front portion 18 and upwardly offset approximately horizontal rear portion 19, and an intermediate connecting portion 20 extending upwardly from the front portion 18 and forming a shoulder or abutment which constitutes a stop and which, with the horizontal front portion provides a seat to receive the lower edge of the lock welt when the same is arranged in the slightly inclined position crosswise with relation to the entrance opening of the channel or groove. This construction of lock welt base frame permits the lock welt to be readily introduced into and removed from the base frame, and when it is desired to remove the lock welt it is first moved rearwardly into the rear extension of the pocket or channel of the base frame. This will permit the lock welt to be arranged substantially in a horizontal position edgewise with relation to the constricted entrance opening, and the lock welt may then be readily pulled out of the base frame without injury to either the base frame or the curtain or apron.

As illustrated in Fig. 6 of the drawing, the stop or seat for the lower edge of the lock welt may be accentuated by arranging the front portion 21 of the bottom of the pocket at a slight inclination. The bottom portion 21 extends upwardly and outwardly from the abutment portion 22 and the pronounced depression or seat is thereby formed to receive the lower edge of the lock welt. This provides an effective lock for holding the lock welt in its engaged position. Also, the extension of the pocket or channel may be arranged at a slight inclination, as illustrated at 23 in Fig. 6 of the drawing. This will enable the lock welt to be readily arranged edgewise with relation to the constricted entrance opening and will facilitate the ready withdrawal of the lock welt from the base frame.

What I claim is:

1. A welt lock base frame provided with an outwardly opening groove or channel forming a pocket having a bottom wall provided with an intermediate shoulder forming a stop seat to be engaged by one edge of a lock welt, a top wall connected at the back with the bottom wall, and a front wall depending from the top wall to be engaged by the opposite edge of the lock welt and spaced from the bottom wall to provide a constricted entrance opening adapted to permit a lock welt of greater width than thickness to be introduced edgewise through the entrance opening, the top and bottom walls of the pocket being of greater width than the lock welt to provide an extension in rear of the welt to facilitate removal of the latter from the pocket.

2. A welt lock base frame provided with an outwardly opening groove or channel forming a pocket and having a bottom wall composed of inner and outer portions and an intermediate connection portion forming a shoulder and providing a stop seat to be engaged by one edge of a lock welt, a top wall connected with the rear portion of the bottom wall, and a front wall depending from the front of the top wall to be engaged by the opposite edge of the lock welt and spaced from the bottom wall to provide a constricted entrance opening to permit a lock welt of greater width than thickness to be introduced edgewise through the said entrance opening, the bottom wall and the top wall being of greater width than the lock welt.

3. A welt lock base frame for spring seat structures provided with an outwardly opening approximately horizontal groove forming a pocket and having a constricted entrance opening adapted to permit a lock welt of greater width than thickness to be inserted in the pocket in a substantially horizontal edgewise position, the pocket of the welt lock base frame being of greater width than the welt to provide a space directly in the rear of the constricted entrance opening to enable the locking welt to be brought down from an inclined locking position to a horizontal flatwise position against the bottom of the pocket to enable the locking welt to be removed through the constricted entrance opening, the pocket being of sufficient depth from front to rear to permit the locking welt to be inserted wholly within the pocket in edgewise position and to be turned therein to locking position across said constricted entrance opening and maintained in such position

under the influence of the tension of the springs of the structure.

4. A welt lock base frame for spring structures provided with an outwardly opening groove forming a pocket having a bottom wall, an inclined top wall and a front wall depending from the front of the top wall and spaced from the bottom wall to provide a constricted entrance opening adapted to permit a locking welt of greater width than thickness to be introduced into the pocket through the said entrance opening, the bottom and inclined walls of the pocket being of greater width than the locking welt to provide an extension space directly in the rear of the constricted entrance opening to permit a sliding and turning movement of the welt within the pocket to facilitate positioning of the locking welt in locking position across said entrance opening and to facilitate removal of the locking welt from the pocket.

5. In a locking welt base frame for spring structures of S-shape having an inwardly opening groove and an outwardly opening groove forming an outwardly opening pocket having a bottom wall, an unbroken straight inclined top wall and a depending front wall extending downwardly from the top wall and terminating short of the bottom wall to provide a constricted entrance opening to permit the introduction into the pocket of a lock welt of greater width than thickness, the said top and bottom walls of the pocket being tapered inwardly and being of greater width than that of the lock welt to provide a rear extension and to form a space in the rear of the locking welt to permit of positioning the welt in locking position and to facilitate the removal of the locking welt from the pocket by permitting the locking welt to be turned to an inclined locking position or downwardly from the inclined locking position to a substantially horizontal position upon the bottom wall, the springs of the structure maintaining the locking welt in said inclined locking position.

In testimony whereof, I have hereunto set my hand.

ABRAM C. WISNER.