Feb. 2, 1943. A. B. SHELTON 2,310,125

LOOM TEMPLE

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Fig. 1.

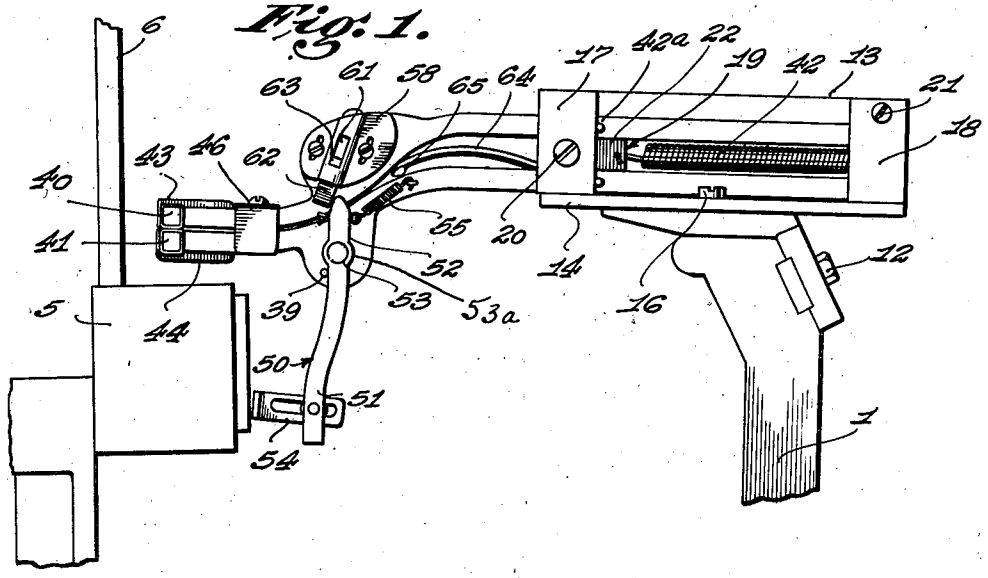
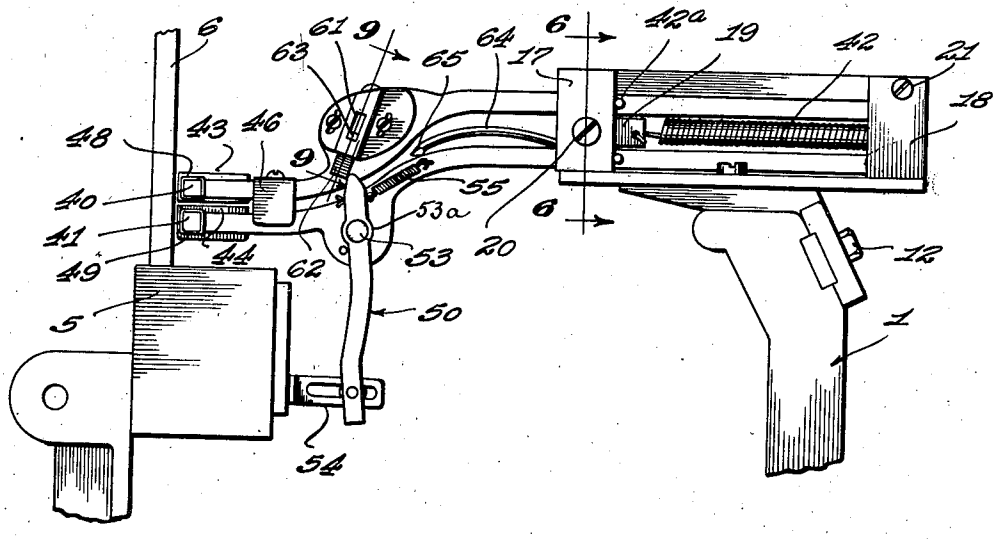


Fig. 2.



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Fig. 3.

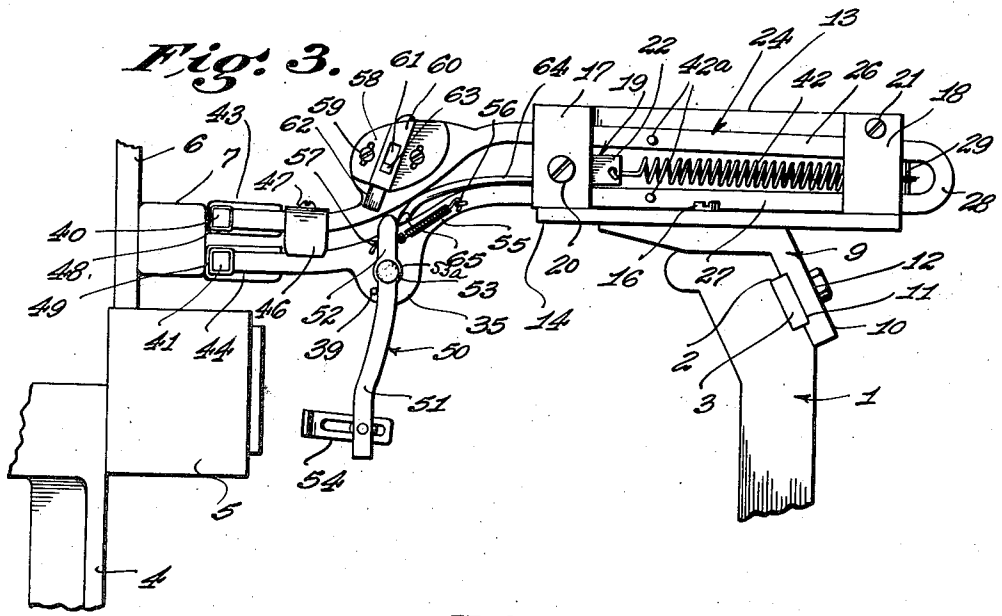
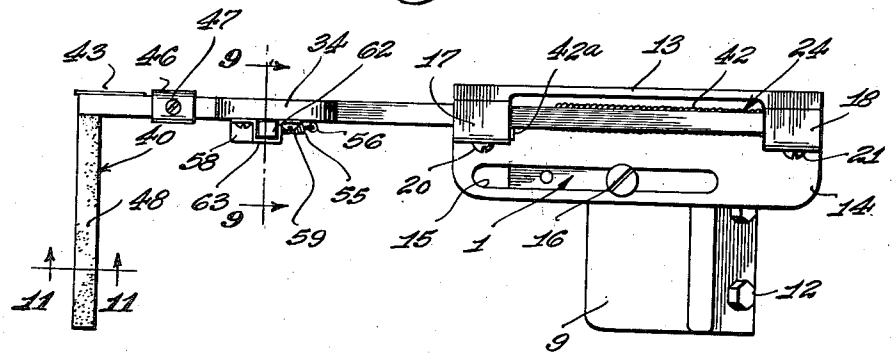


Fig. 4.



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Fig. 5.

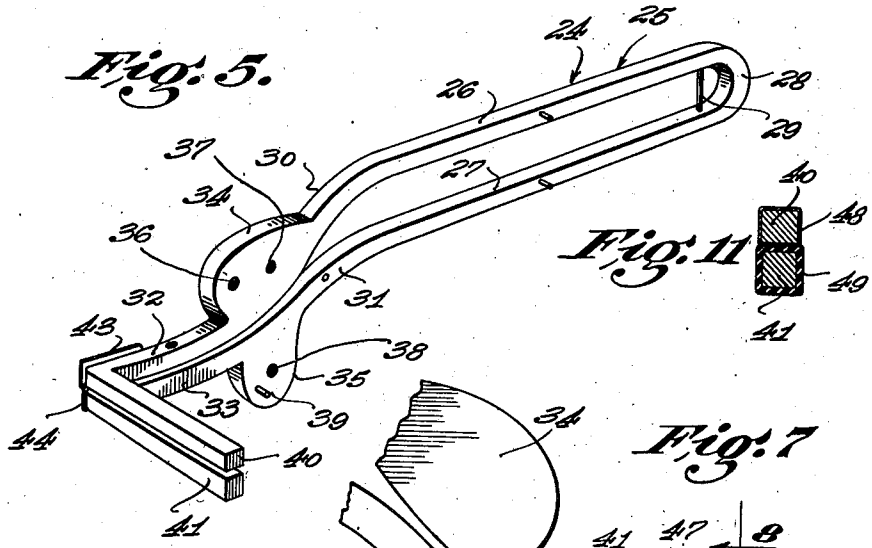


Fig. 11

Fig. 7

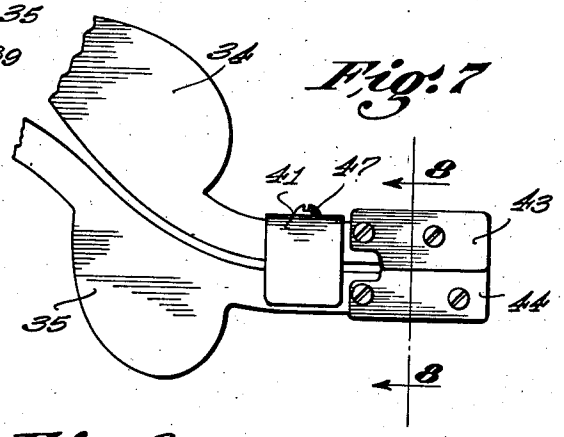


Fig. 6.

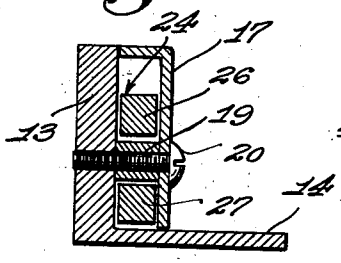


Fig. 8.

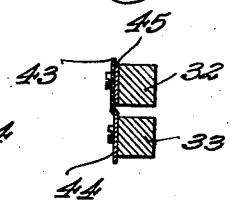


Fig. 9.

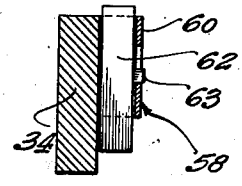
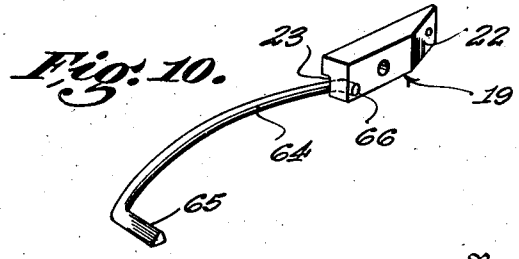


Fig. 10.



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UNITED STATES PATENT OFFICE

2,310,125

LOOM TEMPLE

Andrew B. Shelton, Columbus, Ga.

Application October 31, 1939, Serial No. 302,209

4 Claims. (Cl. 139—293)

This invention relates to an improved loom temple and seeks, among other objects, to provide a device of this character which will effectively trim selvage threads.

Another object of the invention is to provide a loom temple employing means for holding the edge of the cloth during a selvage trimming operation so that the use of a double selvage will be rendered unnecessary.

A further object of the invention is to provide a loom temple having a one-piece spring body which is provided with jaws for tightly holding the selvage during a trimming operation, said jaws being of such formation that they will firmly hold the cloth without mutilating it.

As a further object, the invention seeks to provide a device for the purpose set forth wherein the spring body is mounted on the frame employed in such a manner that said body will be permitted to shift, in the event of a shuttle crash, so that damage to the shuttle will be avoided.

And another object of the invention is to provide a loom temple having trip mechanism for opening the jaws and releasing the cloth after a selvage trimming operation, said trip mechanism operating at any picking speed of the loom.

Further objects of the invention, not mentioned hereinbefore, will become apparent during the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of my improved loom temple as it would appear with the jaws in closed position,

Figure 2 is a side elevation of the invention showing the trip mechanism operated by the forward movement of the lay beam and the jaws in open or releasing position,

Figure 3 is a side elevation showing my improved loom temple in the position it would assume in the event of a shuttle crash,

Figure 4 is a top plan view of my improved loom temple,

Figure 5 is a perspective view of the spring body employed,

Figure 6 is an enlarged detail sectional view on the line 6—6 of Figure 2,

Figure 7 is an enlarged detail plan view of the outer or forward end of the spring body and showing particularly the selvage trimming blades,

Figure 8 is a detail vertical sectional view on the line 8—8 of Figure 7,

Figure 9 is a vertical sectional view on the line 9—9 of Figure 4,

Figure 10 is a detail perspective view showing the wedge rod employed for separating the blades in the event of a shuttle crash, and

Figure 11 is a detail vertical sectional view on the line 11—11 of Figure 4.

Reference is now had more particularly to the accompanying drawings, and in said drawings like numerals of reference will be employed to designate like parts throughout the several views.

The numeral 1 indicates in general a portion of a loom frame which portion is provided with a recess 2 having a mounting bar 3 therein. The loom is, of course, provided with a lay 4 having a beam 5, and a reed 6 is appropriately connected with the lay beam. The numeral 7 indicates the shuttle which, during normal operation of the invention, has no connection with said invention.

In carrying my invention into effect, I employ a temple supporting frame which is indicated generally at 8. The frame 8 is connected to the portion of the loom 1 by means of a bracket 9 which is of substantially L-shape. Said bracket has a portion 10 which is associated with the mounting bar, said portion 10 having a recess 11 which receives the outer surface of said mounting bar. A bolt 12 extends through the portion 10 and firmly anchors the bracket 9 to the loom. The temple supporting frame is of substantially rectangular shape in side elevation and, as best seen in Figure 6, is of substantially L-shape in cross section. The frame 8 has a relatively thick vertically extending body plate 13 and a relatively thin mounting plate 14 which plate 14 is formed with a longitudinally extending oblong slot 15 through which slot extends a mounting bolt 16 which securely fastens the frame to the bracket 9. The frame 8 has clips 17 and 18 at its rear and forward ends, respectively, and said clips are of substantially inverted L-shape and are formed of relatively thin sheet metal. The clip 17 has its central portion spaced from the vertically extending body plate 13 by means of a spacer block 19, and said clip 17 and spacer block are held in place by means of a screw 20. A screw 21 extends through the upper part of the clip 18 and holds it firmly in place at the rear of the frame 8. As clearly seen in Figure 10 of the drawings, the spacer block 19 serves a three-fold purpose. Said block is reduced at one end, as shown at 22, and is cut-away at its rear end at 23 and apertured for a purpose to be described in more detail hereinafter. Said block, of course, serves to space the clip 17 from the plate 13.

My improved temple includes a spring body which is shown particularly in Figure 5 of the drawings. The spring body is indicated generally by the numeral 24 and will be seen to include a substantially U-shaped portion 25 which has parallel disposed spaced legs 26 and 27 which

are connected at their corresponding forward ends by means of a bight portion 28. An anchoring pin 29 extends between the legs 26 and 27 at their corresponding forward ends and in close spaced relation to the bight portion 28. As clearly seen in Figure 5, the legs 26 and 27 are provided with extensions 30 and 31 which are curved rearwardly and downwardly, the extension 30 being curved toward the extension 31. The extensions 30 and 31 terminate at their free ends in substantially parallel portions 32 and 33. The extensions 30 and 31, moreover, are each formed with enlarged mounting ears 34 and 35. The ear 34 is provided with internally threaded openings 36 and 37 while the ear 35 is formed with an internally threaded opening 38 and a pin 39. Formed integrally with the spring body 24 and extending at right angles away from the parallel portions 32 and 33 are clamping jaws 40 and 41 which are substantially rectangular in shape and which extend in parallel spaced relation throughout their lengths.

The spring body 24 is mounted on the temple supporting frame 8 with the legs 26 and 27 extending longitudinally of said frame 8 and the extensions 30 and 31, with the jaws 40 and 41, extending rearwardly from said frame. The legs 26 and 27 are guided by means of the block 19 and said block also prevents accidental displacement of the body from the frame. The spring body 24 is mounted so that it will be capable of shifting longitudinally with respect to the frame 8 in the event of a shuttle crash, as will be pointed out in more detail hereinafter. In order to prevent the body from shifting longitudinally of the frame, during normal operation of the temple, I provide a retractile spring 42. Said spring 42 extends between the legs 26 and 27 of the spring body and has one end terminal connected with the anchoring pin 29. The opposite end of the spring is fastened in an opening formed in the reduced end of the spacer block 19. It will be understood that the spring 42 will normally retain the spring body 24 in its foremost position. Stop pins 42a mounted on the legs 26 and 27 at their outer faces, and in vertical alinement, engage the clip 17 and limit rearward movement of the spring body 24.

Mounted on the outside faces of the parallel portions 32 and 33 and extending longitudinally thereof are cooperating trimming blades 43 and 44. The trimming blades are formed of thin tempered metal and are provided with sharpened edges so as to effectively trim selvage threads. The blade 43 is spaced from the portion 32 by means of a spacer plate 45.

In order to prevent the parallel portions 32 and 33 and, in fact, the entire rear portion of the spring body 24 from displacement laterally, I employ a guide plate 46 which is of inverted U-shaped configuration and is fastened to the parallel portion 32 by means of a screw 47. It will now be understood that the parallel portions 32 and 33 will be effectively restricted to relative vertical movement. Thus, the blades 43 and 44 will always be retained in their proper operative positions.

For firmly gripping the selvage between the jaws 40 and 41, I provide covering sleeves 48 and 49 which, respectively, surround the said jaws throughout their lengths. The covering sleeve 48 is preferably formed of sandpaper and the covering sleeve 49 of rubber, said rubber having a roughened or corrugated outer surface. It should be understood that the sleeves 48 and 49 may be formed of any desired material and that the material above recited is merely used as an example. It has been found, however, that sandpaper and rubber sleeves operate in a highly efficient manner and without mutilating the cloth. As pointed out hereinbefore, use of the clamping jaws precludes the necessity for employing a double selvage edge for the cloth.

There will now be described the mechanism for separating the jaws, upon a forward beat-up of the lay beam, said mechanism also permitting shearing of the selvage threads upon retraction of the lay beam after a pick. The mechanism includes an operating lever 50 which has a relatively long portion 51 and a relatively short portion 52. The lever 50 is pivotally mounted on the mounting ear 35 by means of a pivot stud 53 which extends through an enlarged portion 53a. The pin 39 limits rearward movement of the lever 50. An adjustable slotted contact bar 54 is slidably connected with the lower end of the lever 50 and has a laterally turned portion to engage the face of the lay beam 5 at the conclusion of a forward stroke or beat-up of said beam. The operating lever is normally held in its foremost position by means of a small coil spring 55 which is connected between the relatively short portion 52 and a fastener 56 on the extension 31. A cotter key 57 is used for anchoring the spring to the portion 52 of the lever 50. As clearly seen, the upper end of the portion 52 is rounded. Mounted on the mounting ear 34 is a trigger housing 58, the trigger housing being fastened in position on said ear by means of screws 59. The trigger housing 58, as best seen in Figure 9, is substantially of U-shaped formation, and said trigger housing is preferably formed of light sheet metal. The trigger housing 58 includes a forwardly inclined trigger carrying portion 60 having a slot 61 therein. Mounted in the trigger carrying portion 60 is an operating trigger 62. Said operating trigger has a stop stud 63 which extends through the slot 61 and limits downward movement of the operating trigger 62. It should be understood that the trigger 62 is mounted in the portion 60 in a loose manner so that said trigger will normally be disposed in its lowermost position and, after shifting movement, it will always return to its lowermost position.

As clearly seen in perspective in Figure 10 of the drawings, and in plan in certain of the other views, the spacer block 19 carries a wedge rod 64, said wedge rod extending rearwardly and being curved toward its free end. Said wedge rod 64 carries a wedge piece 65 at its free end which wedge piece is disposed laterally with respect to the rod proper. A pin 66 is pivotally mounted in the cutaway end 23. Said rod extends normally between the legs 26 and 27 of the spring body 24 and is normally inoperative. The operation of the wedge rod and wedge piece will, of course, be set forth hereinafter.

The operation of my improved loom temple will now be described.

It is, of course, presumed that the temple is mounted in the position shown, which is to say, on the loom and in confronting relation to the lay beam. As the woven cloth passes through the reed and past the lay, upon beating up of the lay and shifting of the shuttle, the lay beam will engage the contact bar 54 for shifting the operating lever 50 about the pivot screw 53. The relatively short portion 52 of the lever 50 will be swung rearwardly for engaging the lower end of the operating trigger 62. As the lever 50 con-

tinues to swing rearwardly under the force of the lay beam, the trigger **62** will be urged against the front face of the trigger housing with the result that the extensions **30** and **31** of the spring body **24** will be sprung apart with the further result, of course, that the clamping jaws **40** and **41** will be sprung apart for allowing the woven cloth to pass through. The position of the jaws and the tripping mechanism is shown in Figure 2 of the drawings. As the lever continues to move rearwardly, the upper end of the lever will slip past the end of the trigger and will urge said trigger upwardly within the housing **58**. Upon retraction of the lay beam, the spring **55** will pull the relatively short portion **52** of the operating lever **50** forwardly. The operating trigger **63** will again be allowed to fall into operating position. At the same time, the jaws **41** and **42** will be allowed to come together, under the tension of the spring body **24**, for holding the cloth during a selvage thread clipping operation. The trimming blades **43** and **44** will, of course, be interengaged for effecting the actual trimming operation.

It is particularly desired to point out at this point that, by the use of clamping jaws of the construction set forth hereinbefore, it is possible to grasp the cloth firmly during a selvage trimming operation so that the threads may be effectively clipped and, at the same time, the cloth will not be pulled awry or out of line. Moreover, due to the fact that no burrs are employed, mutilation of the cloth will not take place. Furthermore, the use of a double selvage may be dispensed with, at a great saving in manufacturing cost.

In the description of operation hereinabove, it has been presumed that the loom is operating in a normal manner. However, let it be supposed that, as best seen in Figure 3, a shuttle crash should take place between the reed and the jaws **40** and **41**. In the event that this happens, and it could happen, the shuttle will be urged by the lay beam and reed into engagement with the jaws **40** and **41** and the entire spring body **24** will be shifted forwardly against the tension of the retractile spring **42**. In this manner, ruining of the shuttle will not take place. As will be seen clearly in Figure 3, the wedge rod will, when the body **24** is shifted forwardly against the tension of the spring **42**, engage between the extensions **30** and **31** and effect the separating of the jaws **40** and **41** and consequently the freeing of the cloth. It will, of course, be understood that the lay beam operated trigger mechanism will not need to operate under these conditions.

My improved loom temple is far superior to those formerly in use for the reason that it permits a much more efficient trimming of selvage threads without multilation of the edge of the cloth or without the need of employing a double selvage edge. The invention may be installed cheaply and quickly on a loom and will be capable of manufacture at a reasonable cost. It is capable of use on looms having high or low picking speed and is adapted for continuous operation.

It is also desired to point out that, due to the elimination of many movable parts in my temple, there will be little need for lubrication. The soiling of cloth will, therefore, not take place.

It is believed that further description of the invention is unnecessary.

Having thus described the invention, what is claimed as new is:

1. In a loom temple, in combination with a loom having a lay beam, a temple supporting frame, a bracket mounting the frame on a loom, a spring body, means normally fixedly mounting the body on the supporting frame, said body having legs formed with extensions and said extensions having mounting ears, said extensions being projected to define parallel portions terminating in angularly disposed clamping jaws, means carried by one of said parallel portions for guiding the portions and clamping jaws, said spring body normally retaining the clamping jaws in closed positon, an operating lever pivoted on one of the mounting ears, a trigger housing mounted on the other of said mounting ears, an operating trigger carried in the housing, a contact bolt carried by the operating lever and engageable by a lay beam upon a forward beat-up of the lay beam for shifting the lever and engaging the trigger for supporting the jaws and releasing the selvage edge of cloth clamped therebetween, said operating lever shifting the trigger upwardly during the stroke of the lay, and means for retracting the operating lever for allowing the trigger to return to operative position, said jaws springing together upon release of the trigger for clamping the selvage edge of the cloth.

2. In a loom temple, a temple supporting frame, means for supporting the frame on a loom, a spring body, clips movably mounting the spring body on the supporting frame, said spring body having legs provided with extensions terminating in parallel portions, clamping jaws carried by the parallel portions and being normally closed by the tension of the spring body, a spacer block carried by one of the clips and located between the legs, a retractile spring connected between the spacer block and the spring body and normally retaining said spring body in forward operative position, and means on the spring body for engaging certain of the clips and limiting said body against too great movement, said clamping jaws clamping the selvage portion of cloth thereon during normal operation of the temple and said spring body being adapted to shift against the tension of the spring in the event of a shuttle crash between the clamping jaws and a loom reed.

3. In a loom temple as recited in claim 2 having means for separating the jaws and freeing the cloth upon forward movement of a lay beam.

4. In a loom temple, a spring body having legs terminating in jaws, said jaws being normally closed for clamping the selvage edge of cloth, said legs having mounting ears, means on the ears and cooperating for opening the jaws and freeing the selvage edge of the cloth upon forward beat-up movement of the loom lay beam, said means including a lever having a bar engageable with the lay beam during normal operation of the loom, and means fixedly mounted between the legs of the body and engageable therewith for spreading said legs and said jaws for freeing the selvage edge of the cloth upon shifting of the body in the event of a shuttle crash, said jaws being engageable with a shuttle for shifting said body during said shuttle crash.

ANDREW B. SHELTON.