

(No Model.)

E. S. STIMPSON.
LOOM TEMPLE.

No. 540,032.

Patented May 28, 1895.

Fig: 1.

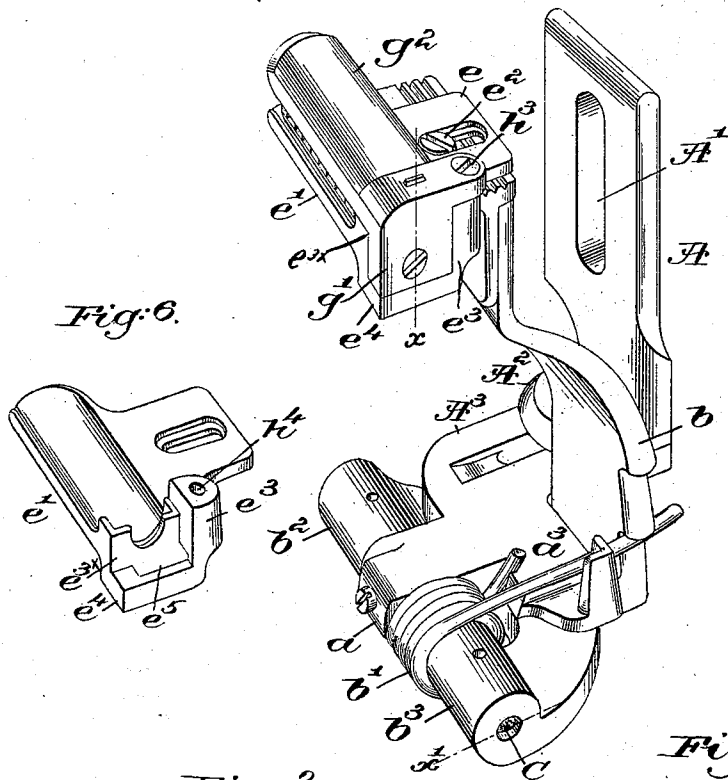


Fig:3.

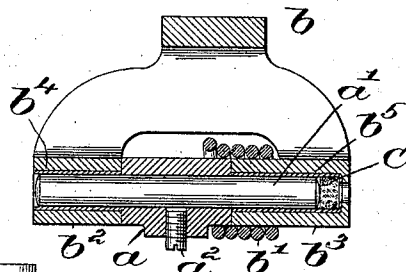


Fig: 2.

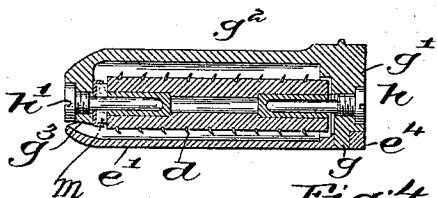


Fig: 4.

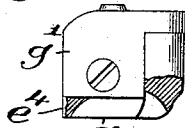
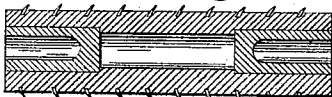


Fig: 5.

Witnesses.

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UNITED STATES PATENT OFFICE.

EDWARD S. STIMPSON, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO THE
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LOOM-TEMPLE.

SPECIFICATION forming part of Letters Patent No. 540,032, dated May 28, 1895.

Application filed March 6, 1893. Serial No. 464,768. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. STIMPSON, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Loom-Temples, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention is intended as an improvement upon that class of loom temples wherein the cap holds or supports the journals for both ends of the usual temple roll. United States Patent No. 456,916, granted to me on the 28th day of July, 1891, shows a temple of this class, the cap having a projection to enter a slot in the pod near that part of the shank of the temple from which the pod is extended. In practice it has been found that in this class of temple the cap, entirely supporting the journals for the temple-roll, is subjected to great strain, and while the projection referred to acts to prevent lateral or twisting strain of the cap with relation to the pod, yet it does not prevent vertical strain or strain to lift the roller and cap away from the pod. In my experiments to overcome this latter class of strain I have made the projection as a hook to engage an undercut portion of one edge of the slot in the pod or shank of the temple. I have also improved the construction of the temple-roll and its bearings, as will be hereinafter described.

Figure 1, in perspective, represents a temple embodying my invention. Fig. 2 is a longitudinal section, taken through the roll and its supports, on the line x , Fig. 1. Fig. 3 is a section in the line x' , Fig. 1. Fig. 4 is a detail to be referred to; Fig. 5, a section through the roll and its bushings, enlarged; and Fig. 6 shows the pod detached.

Referring to the drawings, A is a plate slotted at A' to receive a suitable screw or bolt by which to adjustably attach the same to the inner side of the breast-beam of a loom.

The plate A, at its lower end, has a foot A², which by a suitable bolt has adjustably secured to it in usual manner a foot-plate A³; the said plate and foot constituting a stand. The foot-plate has an ear a provided with a hole for the reception of a bearing stud a' , which when driven into place, as will be de-

scribed, is held fixedly by a suitable set screw a^2 . The stand has a second ear a^3 , one edge of which, see Fig. 1, constitutes a stop for the temple shank b , the other edge receiving against it one end of the actuating spring b' , the opposite end of the spring acting against one of a series of shoulders of the shank b . The shank b at its lower end has two sleeve-like ears b^2, b^3 , provided each with babbitt or other like or suitable bearing surfaces b^4, b^5 , see Fig. 3, so that the shank may turn on the pivot a' with the minimum of friction and wear. I have provided the ear b^3 with a piece of raw hide, or it may be other suitable plug C to constitute a washer, which bears against that end of the pivot a' nearest the loom side, said washer by bearing against said pivot, as described, reducing to the minimum the friction due to the pull of the cloth on the temple roll d .

In putting the temple together the ears b^2, a , and b^3 , will be put in line and the pivot pin will be driven into them, the steel pin fitting the ear a snugly.

Heretofore the shank has turned on one end of a pin held in the stand, and the pin is subjected to very considerable twisting strain, but by fixing the pin in the stand and letting it extend both sides the ear a , and enter two ears of the stand, rather than one, one ear each side the stand, the durability and efficiency of the temple are increased, and the friction is reduced. The less the friction the less is the strain put upon the lay in actuating the temples. The upper end of the shank is shown as serrated in usual manner to co-operate with like serrations at the under side of the projection e of the pod e' , said projection being slotted for the reception of the screw e^2 to adjustably attach the pod and shank. The casting of which the pod forms a part, as best shown in Fig. 6, has an upright e^3 tapped at its upper end as at h^4 for the reception of the screw h^3 , and at right angles to the said upright a second upright e^{3x} concaved at its upper side to receive the journal for that end of the temple-roll, the said upright e^{3x} being recessed preferably at its inner side to receive the end of the temple-roll. (See Fig. 2.) The casting with which the pod is connected or forms a part has a portion e^4

extended beyond the upright e^3 , which portion, as herein shown, is slotted as at e^5 , the said slot having one end shaped or undercut to form part of a locking device, the other
 5 part being the prong g extended from the end g' of the cap or cover g^2 , said cover being provided at its opposite end with an ear g^3 , the end piece g' receiving a steel journal h , while ear g^3 receives a steel journal h' , said journals
 10 nals having screw threaded portions to hold them in the said cover. The cover and pod are of usual shape, and the cover has heretofore had a rectangular prong to enter a slot in the casting of which the pod forms a part,
 15 but herein the prong is made as a hook to engage an under-cut end of the slot, (see Fig. 4,) thus forming a locking device to aid in keeping the cover and pod together, the hook shape of the said parts resisting the tendency
 20 of the cap and pod to separate by reason of the strain of the cloth on the roll. The cover heretofore has been kept down solely by the screw h^3 which is screwed down through an ear of the cover into the threaded opening h^4
 25 in the upright e^3 .

In this my invention the screw h^3 is not subjected to any strain which tends to bend or twist the same out of shape. Heretofore a wooden journal extended from the hollow
 30 shank of a screw has entered a vitreous bearing in the end of a wooden temple-roll, to thus obviate the necessity of oiling the roll journals. These vitreous bearings fixed in the roll are glazed at their interiors, but are
 35 left unglazed externally to better enable them to adhere to the wood of the roll.

In practice it has been found that the rolls shrink and swell more or less due to atmospheric changes, and as a result the close fit
 40 between the exterior of the vitreous bearing and the interior of the wooden roll is loosened, and the bearing when at all loosened begins to cut and grind into the wood, and soon the bearing gets so loose as to render the roll
 45 worthless.

It will be understood that the strain on the roll is always at one side of its longitudinal center, or its center of rotation, and this constant strain in one direction in practice results in wearing away one side of the stationary or non-rotating wooden journal faster than its other side, and the journal when so worn is no longer truly cylindrical and the roll cannot therefore rotate steadily and uniformly, and if the vitreous bushing is in proper condition the wooden journal has to be removed and a new one substituted at the cost of considerable time. In my studies to overcome this I have provided the roll with a
 60 wooden bushing, a bushing which is glued into the roll and partakes of the same changes under the action of the atmosphere as the body of the roll, and hence the bushing cannot become loose; and to co-operate with the
 65 roll so improved I have provided the cover with two hard steel journals h , h' , which cannot be worn by the bearing.

I find in practice that a temple-roll having a wooden bushing is far more durable than one provided with a vitreous bearing, and I find
 70 that the wooden bushing does not require oil.

The rolls made of green or unseasoned wood, and subsequently seasoned, have a longitudinal axial hole bored through them, for when the pins or teeth are being forced into its surface, the roll must be accurately centered, and strongly supported on a closely fitting mandrel inserted in the axial hole, the mandrel not only pivotally supporting the roll but forming a rigid backing when the pins or
 80 teeth are being inserted. The axial opening is also necessary, as it permits the thorough drying of the wood in seasoning, the drying taking place at the interior as well as at the surface, thus preventing cracking or checking, which would render the roll unfit for use, and which could not be prevented in solid rolls or rolls solid at the center and bored at the ends. A bearing must be provided to take up the end thrust of the inner journal in
 90 the direction in which the roll is drawn by the strain of the cloth.

It would be very difficult to insert a plug in the axial hole and fix it in exact position to resist end thrust, and so to provide a proper
 95 bearing for the journal, I have, as shown in Figs. 2 and 5, slightly enlarged the axial bore at the end of the roll, and have inserted therein a wooden bushing having a closed end.

The strain of the cloth on the roll tends to draw the roll onto the journal h' , and surrounding said journal I shall preferably use a washer m , preferably of fibrous material, see Fig. 2, to keep dust out of the bushing at that end of the roll.
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I have in the drawings shown both ends of the roll as provided with a bushing, but this invention is not limited to the employment of a bushing at each end of the roll. The use of the bushing at the inner end of the roll is necessary to that part of my invention relating to the roll and its supports.
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This invention is not limited to the exact shape shown for the hook g forming part of the locking device and employed to prevent the vertical separation of the cover from the pod. To remove the cover withdraw screw
 115 h^3 and tip the cover over far enough to draw the hook g from the slot in which it operates. The roll is supported wholly in the cover. Nor is my invention limited to the exact shape of the stand and shank carrying the head containing the roll, nor to raw hide for the washer.
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In practice the roller is usually set in such manner in the temple head that the fine needle-pointed teeth of the roller come as nearly as possible, without touching, to the interior of both the cover and pod, and consequently whenever the bushing gets loose and grinds, as stated, or the wooden journal becomes
 125 worn, the teeth of the roll strike either the cover or pod or both, and are dulled, and damage the goods, and this latter fact makes it absolutely essential for a practical temple to
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have such construction that its center of rotation once fixed between the cover and pod, the roll should continue to occupy its established position unerringly.

5 Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a loom temple, a temple stand having an ear, and a fixed pivot pin extended from
10 each end of said ear, combined with a shank having two hubs or sleeves mounted on said pivot pin, substantially as described.

2. In a loom temple, a temple stand having an ear, and a fixed pivot pin extended from
15 each end of said ear, combined with a shank having two hubs or sleeves mounted on said pivot pin, and a washer C to bear on one end of said pivot pin, substantially as described.

3. In a loom temple, a cover, a pod, and a

screw to unite them, combined with a locking
20 device to connect the cover and pod and resist the vertical separation of the cover from the pod and lessen strain on the screw, said locking device consisting of a hook and an undercut edge to be engaged thereby when
25 the cover is in its working position, substantially as described.

4. A temple roll composed of a cylindrical wooden body and having secured in an end thereof a wooden bushing closed at its inner
30 end, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD S. STIMPSON.

Witnesses:

FRANK J. DUTCHER,
GEO. E. STIMPSON.