July 12, 1938. T. HENDERSON 2,123,726

TEMPLE ROLL

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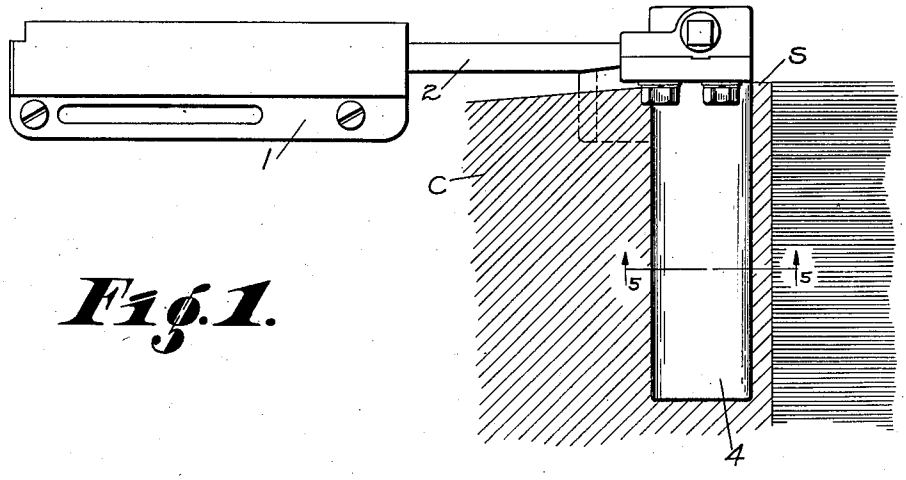

Fig. 1.

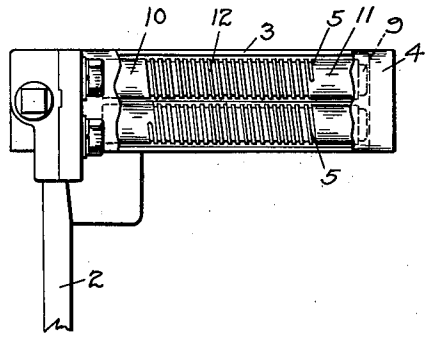

Fig. 2.

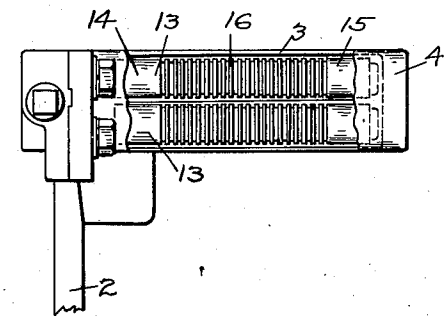

Fig. 3.

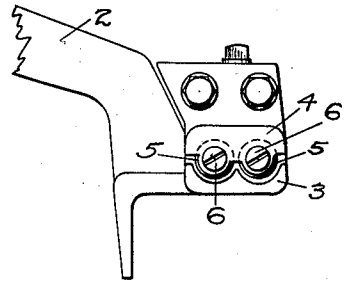

Fig. 4.

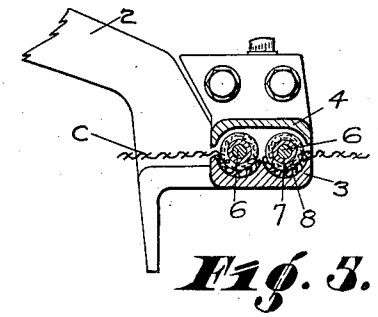

Fig. 5.

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TEMPLE ROLL

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6 Claims. (Cl. 139—296)

The present invention pertains to temple rolls for loom temples and has more particular reference to the fabric-engaging surface of such rolls.

In loom temples, one or more fabric-engaging rolls are rotatably supported in a temple head so as to extend inwardly, widthwise of the cloth, from the selvage thereof. The cloth is pressed against the rolls and the surface of the latter is constructed and arranged to hold the cloth taut as it is woven. The present invention applies particularly to such temple rolls wherein the surface thereof is arranged to hold the cloth by friction, as distinguished from the pin-studded rolls commonly used on coarse cotton cloth and the like.

Prior to the present invention, the friction type of temple roll was usually formed from or covered with rubber, cork or other material having a relatively high coefficient of friction with cloth. In some instances, the cloth-engaging surface of such rolls was smooth and cylindrical. In other instances, the entire surface was grooved or ribbed, by forming a series of spaced grooves or a single helical groove extending from end to end of the roll. I have observed that the grooved rolls exert a better, i. e., stronger, grip on the fabric than do the smooth rolls but that the smooth rolls do not wear out as rapidly as the grooved rolls. I have further observed that the rolls, whether grooved or smooth, wear out most rapidly at their outer or selvage ends, and perhaps to a lesser extent at their inner ends, while the center portions of the rolls wear very little. Thus, the rolls that are discarded as being worn out are badly worn at one or both ends and the center portions are still serviceable.

An important object of the present invention is to provide a temple roll, of the friction type, having a smooth cylindrical fabric-gripping surface at its selvage end, to provide maximum wearing surface at the place where the most rapid wear occurs, and a grooved central portion to provide for adequate gripping or holding of the cloth.

The aforementioned and other objects of the invention are accomplished in the construction illustrated on the accompanying drawing, of which:

Fig. 1 is a plan view of a temple operatively positioned with relation to the cloth;

Fig. 2 is a fragmentary plan view of a temple with the cap broken away and showing the preferred embodiment of my improved temple roll;

Fig. 3 is a view similar to Fig. 2 but showing a modified form of temple roll;

Fig. 4 is an end view of the temple of Fig. 1; and

Fig. 5 is a view in cross-section taken approximately on line 5—5 of Fig. 1.

The temple shown on the drawing includes a stand or housing 1 which is adapted to be fixed to a loom frame (not shown) and a bar 2 which is slidably mounted in the housing. The bar 2 is positioned adjacent and substantially parallel to the selvage S of the cloth C and has a laterally extending head for receiving the cloth. The temple head shown comprises a pod 3 and cap 4 for receiving my improved temple rolls, the temple except for such rolls being of usual construction.

Preferably, the pod 3 is provided with two parallel grooves which extend longitudinally of the pod, i. e. widthwise of the cloth, to accommodate two parallel temple rolls 5, 5 as shown more clearly by Fig. 5. The rolls are rotatably mounted on pins 6, 6 which are supported by the cap 4. The cloth C extends between the pod and the bottom of the rolls and the shape of the pod is such that it holds the cloth against the rolls.

The temple rolls 5 are of the friction type, in that they grip or hold the cloth by friction only. Each temple roll comprises a generally cylindrical body which may consist of a cylindrical wood body 7 having a covering 8. The covering 8 is preferably formed from a tube of suitable resilient, fabric-gripping material such as rubber or synthetic rubber. The covering 8 extends or covers the core or body 7 from end to end thereof, except that the body 7 is provided at its inner end with a head 9 (Fig. 2) which engages the inner end of the covering tube and prevents the latter from being pulled endwise off the body.

The end 10 of the temple roll 5, which is the end closest to the bar 2, is the outer or selvage end of the roll. This end of the roll is engaged by the selvage S of the cloth. The cloth selvage may be under more tension than the main body of the cloth. This tension causes appreciable added strain on the selvage end 10 of the temple rolls. Also, the tendency of the cloth to contract widthwise as it passes forwardly off the rolls results in an abrading action which is particularly severe adjacent the selvage end of the roll. For these reasons, and perhaps others of which I am not aware, the selvage end portion 10 of the rolls tends to wear out comparatively rapidly.

The peripheral surface of selvage end portion 10 of the temple rolls 5, as shown on Fig. 2, is cylindrical, and is smooth in the sense that it is not intentionally provided with projections or

depressions of any nature. In other words, the covering 8 being formed from a reasonably smooth-surfaced rubber tube, the portion 10 may be merely left with the surface which results from the usual moulding or other tube forming process. The portion 10 is of appreciable length, for example one-fifth of the total length of the roll. The smooth fabric-engaging surface of the portion 10 presents the maximum possible wearing area and accordingly such portion will not wear out as rapidly as prior rolls which were grooved from end to end thereof.

It is found that, as above mentioned, the inner end portion 11 of temple rolls of the friction type is also subjected to severe wear. I accordingly prefer to form this end with a smooth cylindrical surface of appreciable length, the same as end portion 10.

The cloth-gripping properties of the temple roll 5 are improved by grooving the central portion 12. In the embodiment shown more particularly on Fig. 2, a single helical groove is formed in the surface of the roll and extends from the selvage end portion 10 to the inner end portion 11. The pitch of the groove is such as to form a helical rib of appreciable width, the rib-and-groove construction serving to hold the cloth very firmly and thus prevents its slipping in the temple. While the rib and groove of the central portion 12 are truly helical, they may be considered as being circumferential in the sense that they extend around the roll as distinguished from axially thereof. The external periphery of the ribbed central portion 12 is of the same diameter as the end portions 10 and 11.

The temple shown on Fig. 3 of the drawing is the same temple shown in the other views except that it is provided with different rolls. These rolls 13, 13 may have the same wood body and yielding covering as the rolls 5, 5 and have similar smooth cylindrical end portions 14 and 15. The central portion 16 of each roll 13 differs from the portion 12 of the rolls 5 in that the portion 16 is provided with a series of spaced, truly circumferential grooves, forming a series of annular gripping ribs. The properties and advantages of the rolls 13 are substantially identical to those of the rolls 5.

Having fully disclosed the preferred embodiment of my invention, I claim:

1. A temple roll having a smooth cylindrical fabric-gripping surface of appreciable length at its selvage end and a grooved fabric gripping surface intermediate its ends.

2. A temple roll having smooth cylindrical fabric-gripping end portions of appreciable length and a circumferentially grooved fabric-gripping central portion.

3. A temple roll comprising a roll body having smooth cylindrical fabric-engaging end portions of appreciable length and a ribbed fabric-gripping central portion of substantially the same diameter as said end portion.

4. A temple roll comprising a cylindrical roll body having a resilient fabric-engaging surface, the end portions thereof being smooth to provide the maximum wearing surface and the central portion thereof between said ends being circumferentially grooved.

5. A temple roll comprising a rigid roll body having a resilient cylindrical covering extending substantially from end to end thereof, said covering having smooth fabric-engaging end portions of appreciable length and a circumferentially ribbed fabric-gripping central portion.

6. A temple roll comprising a cylindrical wood body having a covering of resilient fabric-gripping material extending substantially from end to end thereof, said covering having at each end a smooth cylindrical fabric-engaging surface of appreciable length, the portion of said covering intermediate said ends being ribbed circumferentially and being of substantially the same diameter as said end portions.

THOMAS HENDERSON.