United States Patent

[11] 3,620,261

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[73] Assignee **Lupton Bros. Ltd.**
[32] Priorities **Feb. 11, 1969**
[33] **Great Britain**
[31] **7,327/69;**
June 12, 1969, Great Britain, No. 29,804/69

[54] **LOOM TEMPLES**
6 Claims, 15 Drawing Figs.

[52] **U.S. Cl.** **139/295**
[51] **Int. Cl.** **D03j 1/22**
[50] **Field of Search** 139/292, 294, 295, 296, 298

[56] **References Cited**

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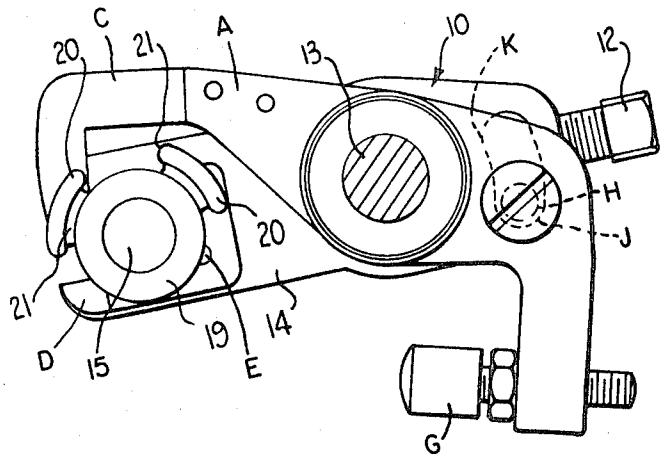
Primary Examiner—Henry S. Jaudon
Attorneys—Harry C. Bierman, Jordan B. Bierman and Bierman and Bierman

ABSTRACT: A cover for association with the rotary barrel of a loom temple comprises at least two part-cylindrical sections adapted for mounting either above or below the axis of said barrel, one or each such cover being capable of adjustment, circumferentially or radially of the latter, with reference to the other.

The several cover sections may be movable independently of one another about the barrel axis, and they may be arranged at different distances from such axis so as to be capable of telescoping one within another.

Alternatively two sections of a three-part cover may be individually slidable upon the third part for adjustment circumferentially of the barrel, or at least two cover sections may be independently adjustable towards or away from such barrel.



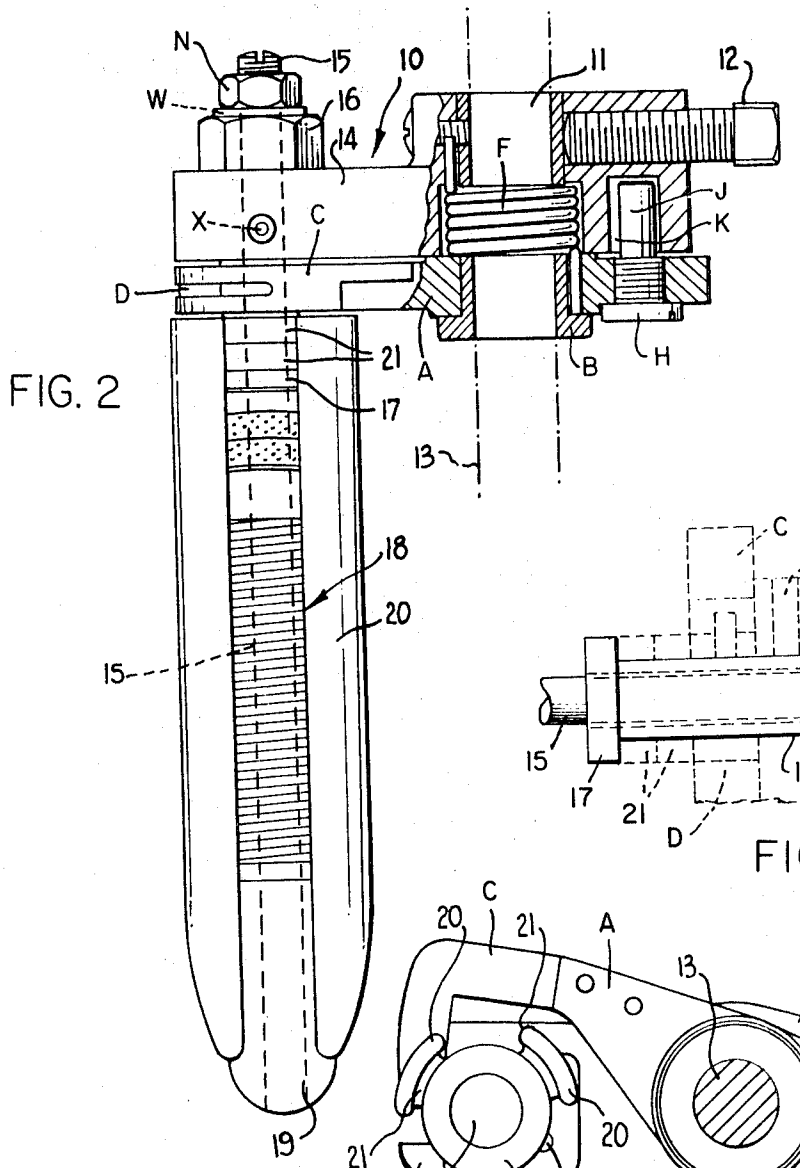


FIG. 2

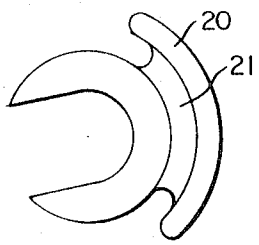


FIG. 2A

FIG. 1A

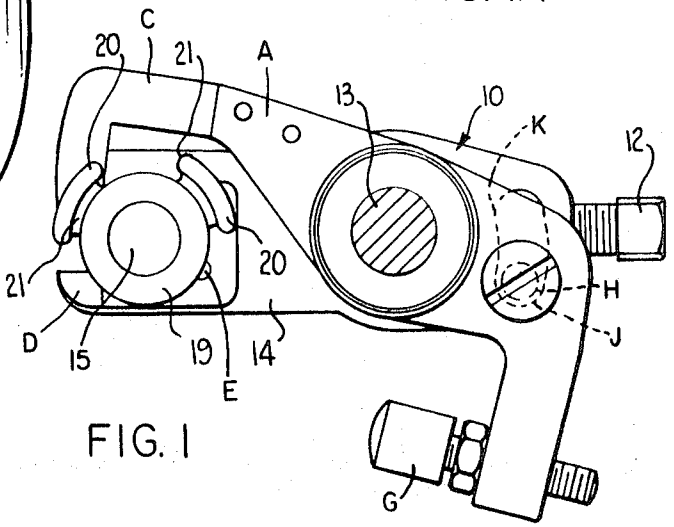


FIG. 1

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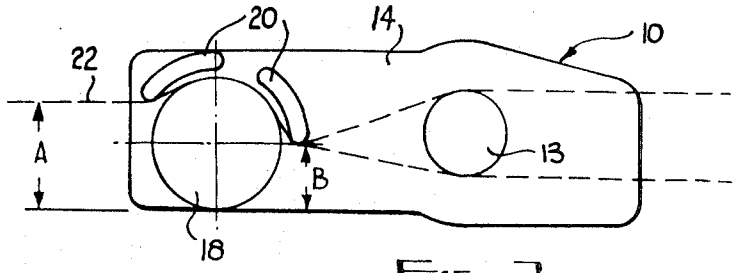

FIG. 3.

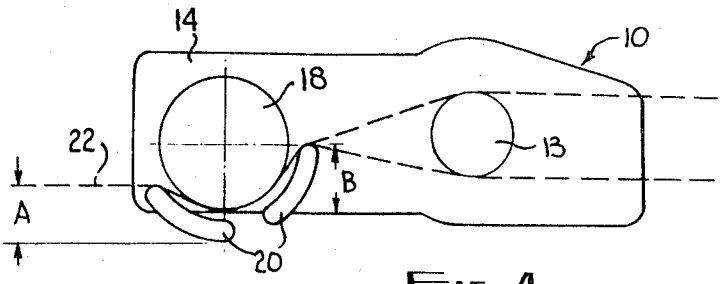

FIG. 4.

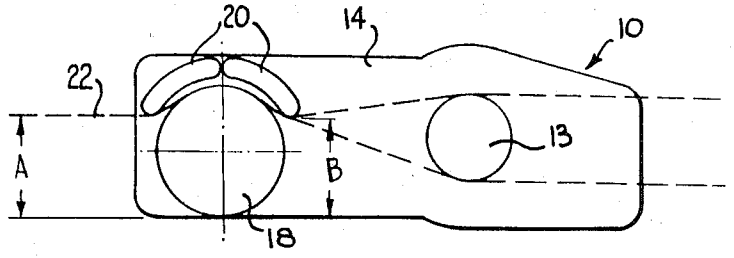

FIG. 5.

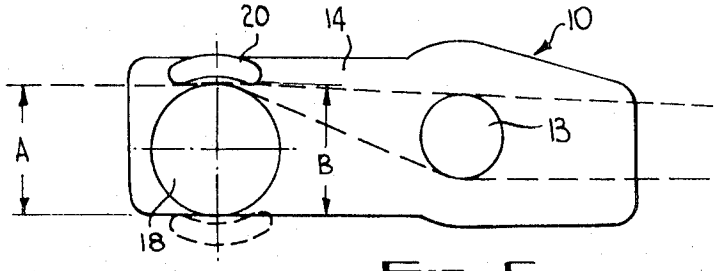

FIG. 6.

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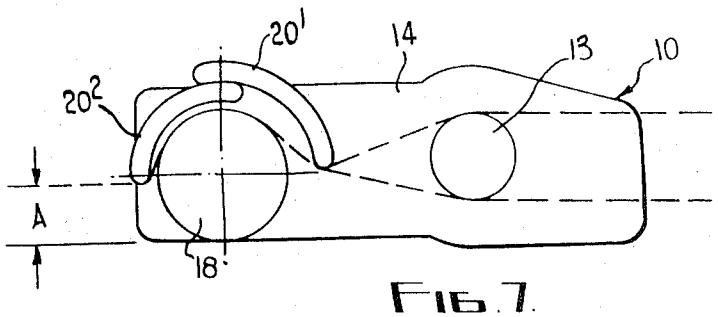

FIG. 7.

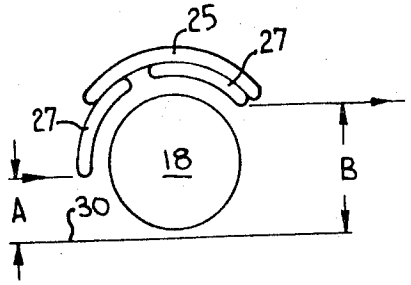

FIG. 10.

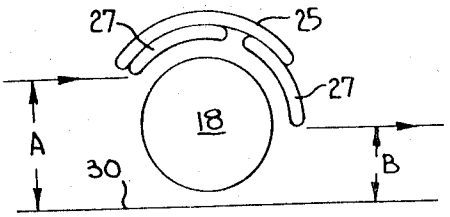

FIG. 11.

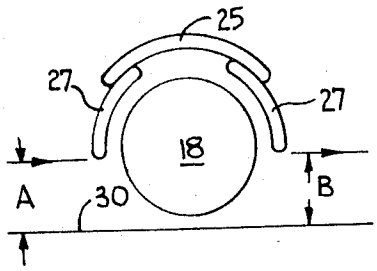

FIG. 12.

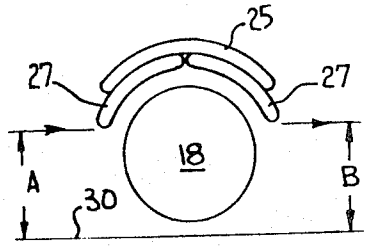

FIG. 13.

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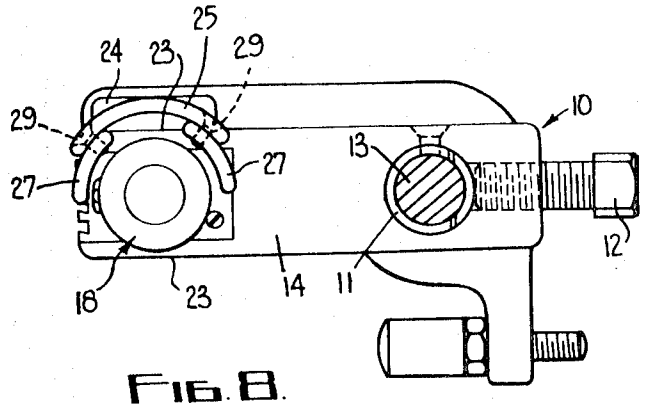

FIG. 8.

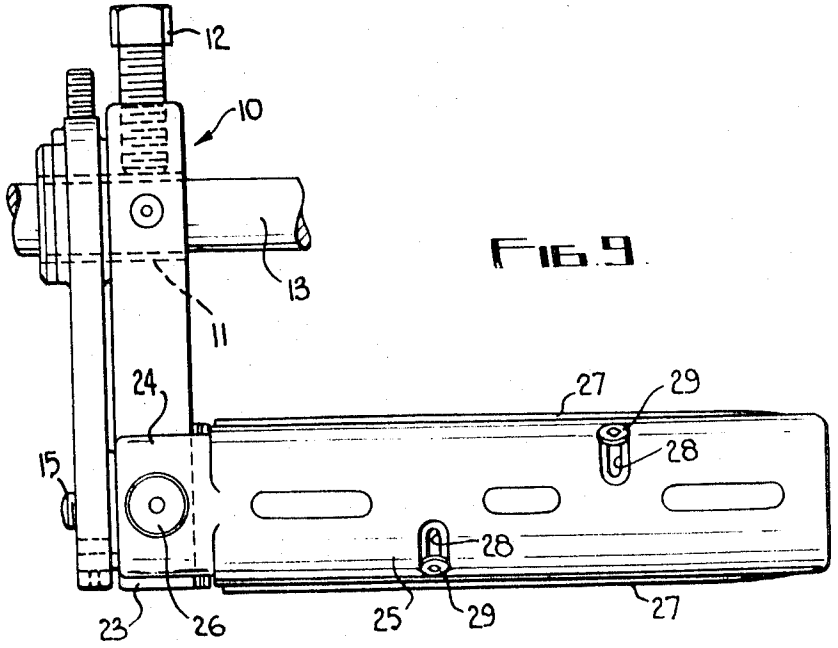

FIG. 9.

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LOOM TEMPLES

This invention relates to loom temples, whose purpose is to prevent widthwise contraction of the cloth during weaving and which conventionally comprise spiked and/or corrugated barrels mounted for free rotation at positions where they overhang opposite selvedges of the cloth, each such selvedge being constrained to engage part of the adjacent barrel's periphery by the edges of a stationary part-cylindrical cover which closely embraces the latter, and being thereby maintained at a distance from the other selvedge equal to the initial spread of the warp threads in the loom.

It is customary to mount a pair of temples upon a horizontal bar about the axis of which they can rock against spring-loading should a trap occur, and hitherto the cover of each such temple has been formed in one piece (usually with a closed medial slot to allow inspection of the selvedge as it engages the barrel) and rigidly united to the body of the temple either above or below the barrel and generally at a fixed distance from the latter's axis, although it is known to provide for adjustment of the cover in a direction radial to such axis.

Such adjustment will, of course, vary the heights at which the cloth enters and leaves the temple with reference to the barrel axis, but obviously any change in entry height will cause a similar change of exit height in the same sense, and if an effective arc of cloth contact with the barrel is to be maintained the permissible range of radial cover adjustment is necessarily small.

The chief object of the present invention is to enable the heights at which the cloth enters and leaves a loom temple to be varied independently one of the other, whilst permitting the angle of arc over which the cloth is held in contact with the rotary barrel to be varied over a wide range.

A further object is to provide an improved construction of temple which, besides allowing the variable geometry aforesaid, will enable the cloth to be passed either over or under the barrel as described.

According to this invention, a cover for association with the rotary barrel of a loom temple, comprises at least two part-cylindrical sections adapted for mounting either above or below the axis of said barrel, one or each such section being capable of adjustment circumferentially or radially of the latter, with reference to the other.

In a preferred construction of loom temple embodying the present invention, two or more of the adjustable cover sections aforesaid are provided for angular movement independently of one another about the barrel axis, so as to vary the overall width of the composite cover and the height of its outer edges with reference to such axis. If desired, these sections may be designed to telescope one within another.

Conveniently each movable section of the cover is formed at its outer end with an apertured lug through which passes the stationary barrel spindle and which, after angular adjustment of such section, can be clamped between a collar on said spindle and the body of the temple.

Alternatively, in the case of a cover comprising three part-cylindrical sections, two of these may be individually slidable upon the third section for adjustment circumferentially of the barrel.

Or again, the cover may comprise at least two sections which are independently adjustable towards or away from the barrel and which are formed with lugs clampable at selected positions in slots in the temple body.

In the accompanying drawings;

FIGS. 1 and 2 are a side elevation and part-sectional plan view, respectively, of one form of temple embodying the present invention;

FIG. 1A is a detail view of the spindle of FIG. 1;

FIG. 2A is a detail view of one of the covers of FIG. 1;

FIGS. 3 to 6 are schematic side elevations showing various arrangements of the cover sections;

FIG. 7 is a similar view showing a modified construction;

FIGS. 8 and 9 are a side elevation and plan view, respectively, of a further modified construction; and

FIGS. 10 to 13 are schematic side elevations showing various arrangements of the cover sections illustrated in FIGS. 8 and 9.

In the example illustrated in FIGS. 1 and 2, the temple body 10 is provided with a split bush 11 and binding screw 12 whereby it can be clamped upon a conventional mounting bar 13, a lug 14 on such body having a barrel spindle 15 fixed thereto in parallel relation with such bar and extending towards the centerline of the loom.

A clamping nut 16 cooperates with a collar 17 fixed near the outer end of the spindle 15 to secure the latter to the lug 14, the rotary barrel 18 being located between the collar 17 and a rounded head 19 at the free end of the spindle. Such barrel may consist of rings, rubber rollers and rings, metal rollers and rings, or any other well-known arrangement of parts designed to exert an outwards pull upon the adjacent marginal part of the cloth.

A yarn cutting device is provided and in the particular arrangement being described, this comprises a pivotal cutter arm A carried by a bush B through which the mounting bar 13 passes. At one end of the arm A is provided a cutter element C of bifurcated form. This element C cooperates with a cutter D which is secured to the body 10 by means of a dowel E. The cutter D is also provided with a bore (not shown) through which the barrel spindle 15 can pass. A torsion spring F serves normally to hold the cutter arm A in such position (as shown in FIG. 1) as to render the cutting device inoperative. At the end of the cutter arm A remote from the cutter element C there is provided an abutment G which serves to operate the cutting device in known manner. To limit pivotal movement of the arm A there is provided a stud H screwed onto the arm A and having an integral pin J which enters into an elongated slot K in the body 10. The arm A can thus only move through a distance equivalent to the length of the slot K.

It should be appreciated that any conventional yarn cutting device can be used, the description above being of one form only of cutting device known in the art. For example, a hot wire cutting device can be substituted for that disclosed.

The cover whereby the cloth is maintained in contact with the barrel 18 is formed in two generally similar sections 20 each formed at its outer end with an apertured lug 21 through which the barrel spindle 15 passes and which can be clamped between the inside collar 17 and the supporting lug 14 on the temple body 10.

These cover sections 20 extend parallel to the barrel spindle 15 to which they approximately correspond in length, their interior surfaces being part-cylindrical between parallel rounded edges 21 and concentric with the barrel 18.

Before the clamping nut 16 at the inner end of the spindle 15 is finally tightened, each of these two cover sections 20 can be adjusted independently of the other, to any desired angular position in relation to the axis of the barrel 18.

As shown in FIG. 1A the collar 17 is formed at one end of a bush 17*a* which extends through the body 10 and through the bore of the cutter D. Apertured lugs 21 of two cover sections 20 (referred to below) seat on the bush 17*a* between its collar and the cutter D. The clamping nut 16 when tight thus serves to hold the apertured lugs 21 in any predetermined position both angularly in relationship to each other and radially (for a purpose referred to below). The spindle 15 passes through the bore of the bush 17*a* and its collar 17 and is secured in position by means of a nut N and between which and the nut 16 is located a washer W. Additionally, the bush 17*a* is drilled radially to receive a grub screw X which passes through a drilled and tapped hole in the body 10 to bear against the periphery of the spindle 15. It is thus possible to remove the nut N from the spindle to allow the nut 16 to be slackened and thus enable the positions of the apertured lugs 21 and thus the cover parts 20 to be adjusted without disturbing the spindle 15 since the latter is held by the grub screw X.

FIG. 2A depicts the cover section 20 and apertured lug 21. As will be readily appreciated from FIG. 2A, apertured lug 21 is open at one end to permit sliding engagement with the bar-

rel 18 on which it is mounted. The open end configuration of apertured lug 21 permits the lug and therefore cover section 20 to be moved radially with respect to the barrel 18 to increase or decrease the distance between the cover sections and the periphery of barrel 18.

For example, as shown in FIGS. 3 and 4, the outer edge of either section 20 may be set either above or below a horizontal plane through the barrel axis to determine the cloth-entry height A or exit height B as the case may be, it being obvious that the angular arc of contact between the cloth 22 and the barrel 18 is proportional to the gap left between the two sections 20, which preferably taper in thickness towards their inner ends.

Should it be desired to obtain a shorter contact arc than is provided by complete closure of the gap aforesaid, as shown in FIG. 5, a single cover section 20 may be used to control the cloth 22 whilst the other is removed or turned to the opposite side of the barrel 18 (FIG. 6), an arrangement which permits the maximum entry height A or exit height B when the operative cover section is set above the barrel or the minimum such height when it is set below the barrel.

In the modified construction shown in FIG. 7, the internal radius of curvature of one cover section 20' may be made greater than the maximum distance between the spindle axis and the exterior surface of the other section 20^2, so that the two sections may be more or less completely superimposed or a circumferential gap left between them to give the desired entry height A or exit height B or width of contact arc.

To facilitate the angular positioning of any cover section 20, an index mark thereon may be related to scale graduations on the temple body 10, or vice versa, and such section may be adjusted to, and maintained in, the desired angular position by means of screw-and-nut mechanism as an alternative to being moved manually and clamped in place as above described.

In the further modification shown in FIGS. 8 and 9 mutually parallel faces 23 are provided on the temple body 10 at opposite sides of the spindle 15 to provide alternative seatings for a lug 24 at one end of a main part-cylindrical cover section 25 which can be fixed concentric with the spindle by means of at least one setscrew 26 engaging a tapped hole in the body 10.

Arranged internally of this main section 25 and slidable towards or away from its centerline are two secondary part-cylindrical cover sections 27 provided adjacent their inner edges with circumferential slots 28 which receive the heads of screws 29 engaging tapped holes in the main section 25 so that each section 25 can be clamped in place after adjustment to any available angular position relative to the axis of the barrel 18.

For example, as shown in FIG. 10 the section 27 at the entry side of the temple may be adjusted outwardly as far as possible to bring its outer edge (say) three-eighths of an inch from the shuttle-race 30, whilst the corresponding section 27 at the exit side is adjusted inwards to the full extent to provide the maximum difference between the cloth-entry and -exit heights A, B.

Conversely (FIG. 11), the entry-side section 27 may be moved inwards to the full extent, bringing its outer edge (say) seven-eighths of an inch above the race board 30, and the exit-side section adjusted outwards as far as possible.

The arc of cloth contact with the barrel may be increased by moving both adjustable sections 27 fully outwards so that their outer edges are each one-half of an inch above the race board 30 (FIG. 12), or the contact arc may be decreased by fully retracting both sections 27 so that their inner edges are adjacent or in contact, and their outer edges three-fourths of an inch above the race board 30, as in FIG. 13.

Obviously, the same range of cloth-contact arcs is available when the composite cover is dismounted and refitted at the underside of the temple body 10, but in this case the entry height A is a maximum when the adjacent adjustable section 27 is slidden fully outwards and a minimum when it is fully retracted.

In yet another modification the adjustable cover sections, instead of being rotatable about the barrel 18, are independently adjustable towards or away from the latter, their outer ends being formed with lugs engaging separate slots in the temple body 10 and each being clampable at any point along the associated slot. The slots aforesaid may be parallel or mutually divergent in straight or curved lines, and the clamping means may comprise screws or nutted studs engaged with such lugs.

Whichever construction is employed, the cover sections may be made of ferrous or nonferrous metal or other suitable material by pressing, forging, casting or any other process and their edges may be somewhat curved instead of being straight. Furthermore long sections may be stiffened by longitudinal ribs on their exterior surfaces.

I claim:

1. A loom temple comprising a body portion, a spindle fixed in said body portion, a barrel rotatable upon said spindle, and a cover so mounted on said spindle as to embrace said barrel circumferentially thereof, said cover including at least two part-cylindrical sections, said sections being adjustable radially and circumferentially with respect to said barrel and to each other.

2. A loom temple as claimed in claim 1, wherein each cover section has an apertured lug at one end to permit radial movement of said cover section and to receive said spindle, said spindle having a collar located endwise thereof, said cover sections being positioned circumferentially of said spindle by clamping of said lugs between said collar and said body portion.

3. A loom temple as claimed in claim 1, wherein said cover sections are movable independently of one another around the axis of said barrel.

4. A loom temple as claimed in claim 1, wherein said cover sections are movable independently of one another around the axis of said barrel but arranged at different distances from one another to allow relative telescoping thereof.

5. A loom temple as claimed in claim 1, wherein two of said cover sections are individually slidable upon a third such section.

6. A loom temple as claimed in claim 1, including a fixed part-cylindrical cover section, clamping screws carried by said fixed section, and two movable cover sections each formed with a circumferential slot through which one of said clamping screws is passed to allow limited circumferential adjustment of such movable section relative to said fixed section.

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