

(No Model.)

F. BAYNES & J. WHALLEY.
SHUTTLE BINDER FOR LOOMS.

No. 475,380.

Patented May 24, 1892.

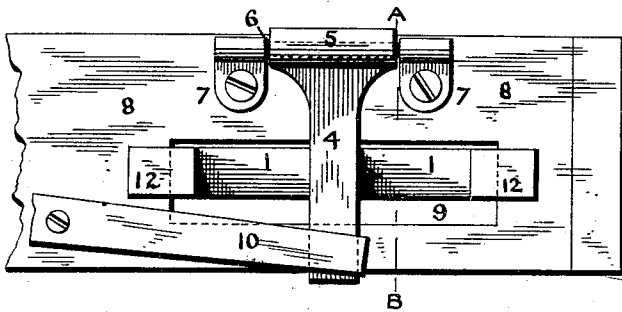


FIG. 1.

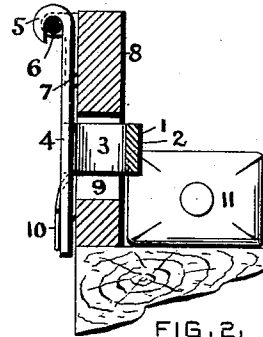


FIG. 2.

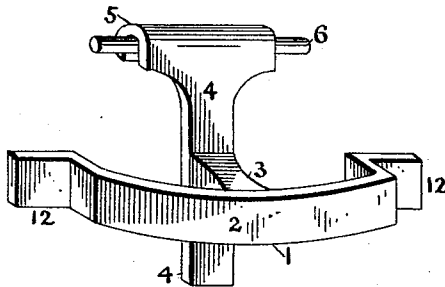


FIG. 4.

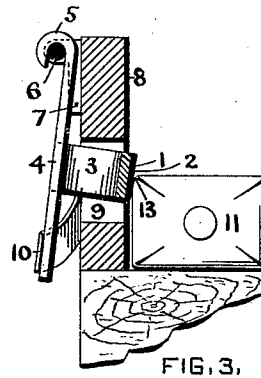


FIG. 3.

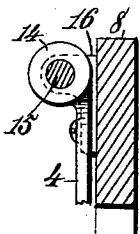


FIG. 6.

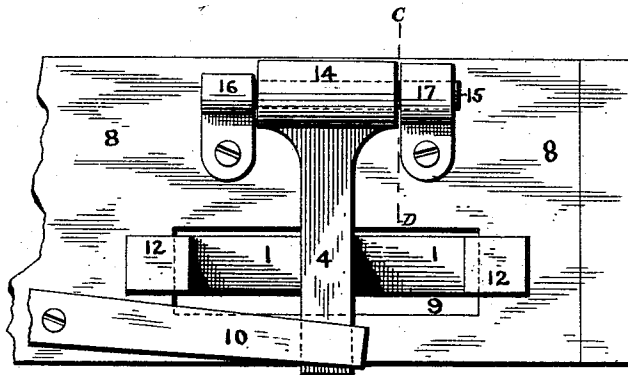


FIG. 5.

WITNESSES.

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SHUTTLE-BINDER FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 475,380, dated May 24, 1892.

Application filed May 15, 1891. Serial No. 392,861. (No model.) Patented in England September 5, 1889, No. 13,965.

To all whom it may concern:

Be it known that we, FREDERICK BAYNES and JOSHUA WHALLEY, both of Blackburn, in the county of Lancaster, England, have jointly invented certain new and useful Improvements in Shuttle-Binders for Looms, (for which we have obtained Letters Patent in Great Britain, No. 13,965, dated September 5, 1889;) and we do hereby declare the following specification, taken in connection with the accompanying drawings, forming a part of the same, to be a description thereof.

This invention relates to improvements in the binders or swells of shuttle-boxes of looms for weaving and to the mounting of such swells, the objects of the invention being to render the swell more durable and effective than those heretofore generally used and to enable the swell to be easily applied to and removed from the shuttle-box when occasion requires.

The invention consists in certain features of construction and arrangement hereinafter described and claimed.

Referring to the drawings, Figure 1 represents a rear view of a part of the shuttle-box of a loom with our improved swell applied thereto. Fig. 2 shows a vertical transverse section on line A B of Fig. 1, the shuttle being shown in the "race," but not boxed. Fig. 3 is a similar sectional view showing the shuttle boxed and engaged by the swell. Fig. 4 shows in perspective the swell and its hanger-arm and a pin upon which the same may be hooked or mounted. Fig. 5 represents a rear view of a part of a shuttle-box, the swell, and its hanger-arm, the latter being mounted in a modified way; and Fig. 6 shows a vertical transverse section on line C D of Fig. 5, illustrating the modification more clearly.

The swell 1 is composed of metal cast or formed into proper shape, its face 2 being curved or rounded longitudinally, as shown in Fig. 4. By means of a lug or block 3 the swell is connected with the hanger-arm 4, the swell, lug, and arm being integral if made of cast metal. Preferably the upper end 5 of the hanger-arm is made hook shape, so as readily to pass over a pin 6, which pin is supported by two ears or brackets 7, secured to the lathe, as by being attached by screws to

the back board 8 of the shuttle-box, as shown in Fig. 1. By constructing the hanger-arm 4 so that it can be hooked upon the pivotal support or pin 6 as well can be easily and quickly applied to and removed from the shuttle-box when desired.

The back board 8 of the shuttle-box is furnished with a slot or opening 9, in which the swell can swing bodily in a plane transversely of the shuttle-box on the supporting-pin 6, and a flat or blade spring 10 is made to bear upon the arm 4 to press the swell inward at all times. The normal or inward position of the swell may be governed by the contact of fingers 12 upon its end with the board 8 or by contact of the free end of the arm 4 with said board, as will be readily understood. When the shuttle 11 enters the shuttle-box from the race, that side of the shuttle nearest the swell comes into engagement with the face of the swell and pushes the swell out, as shown in Fig. 3, the swell acting to check the momentum of the shuttle and bring it to rest in the box. When the shuttle is boxed, as shown in Fig. 3, it will be seen that the face of the swell bears upon the upper edge 13 of the shuttle, that the face of the swell is inclined, and its upper edge overhangs the shuttle, thereby pressing and holding the shuttle to the bottom of the box and preventing it from flying out.

In place of making the upper end of the hanger-arm 4 hook shape, said end may be in the form of a sleeve 14, as shown in Figs. 5 and 6, and a pin 15, secured to an ear 16, pass through the bore of said sleeve into an ear 17, the said ears being secured to the lathe, as by screws passing into the back board 8 of the shuttle-box. To detach the swell when thus mounted, it is only necessary to remove the ear 17, press the swell outward, and slide it off the pin 15.

By hinging or mounting the swell so that it will bodily swing in a plane transversely of the shuttle-box it has been found that less power is required to be applied to the picker-staff to force the shuttle out of the box to make a flight than when, as in the old form, the swell is pivoted at one of its ends to swing horizontally in the arc of a circle. The pressure

of the spring being applied in the central vertical line of the swell also makes its action more effective.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, with the shuttle-box, of the swell 1, provided with the hanger-arm 4, having a hook-shaped upper end, a supporting pivotal pin upon which the upper end of said arm is removably hooked or hung, and a spring for pressing the swell inwardly toward the shuttle, substantially as and for the purposes specified.

2. The combination, with the shuttle-box, of the swell 1, having the hanger-arm 4, a supporting-pin upon which said arm is pivoted so that the swell swings bodily in a plane transversely of the shuttle-box, as described, and a spring for pressing the swell toward the shuttle, the swell being arranged with relation to the shuttle, as described, so that when the shuttle is boxed the upper edge of the swell will overhang the shuttle, and thereby hold it to the bottom of the box, substantially as set forth.

3. The combination, with the shuttle-box, of the swell 1, provided with a hanger-arm 4, having a hook-shaped upper end, a supporting-pin 6, upon which the upper end of said

arm is hooked or hung so that the swell will swing bodily in a plane transversely of the shuttle-box, as described, and a spring for pressing the swell toward the shuttle, the said swell being arranged with relation to the shuttle, as described, so that when the shuttle is boxed the upper edge of the swell will overhang the shuttle, and thereby hold it to the bottom of the box, substantially as described.

4. The combination, with the shuttle and the shuttle-box back board 8, provided with the slot 9, of the swell 1, having a convex-faced member 2, provided with laterally-projecting ends 12 to engage the box back and limit the inward movement of the swell, the hanger-arm 4, integral with the swell and having a hook-shaped upper end, the supporting-pin 6, upon which said hanger-arm is removably hooked, and a spring 10 for pressing the swell inward toward the shuttle, substantially as described.

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