

J. BENZ.
ATTACHMENT FOR LOOMS.
APPLICATION FILED JULY 27, 1912.

1,063,409.

Patented June 3, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

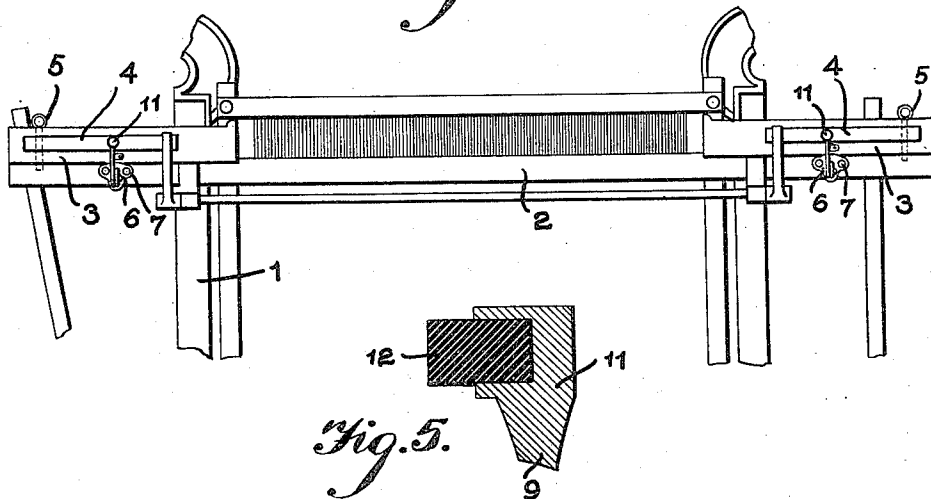


Fig. 5.

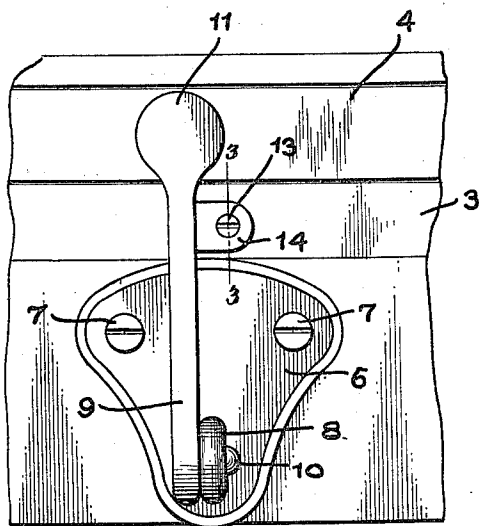


Fig. 2.

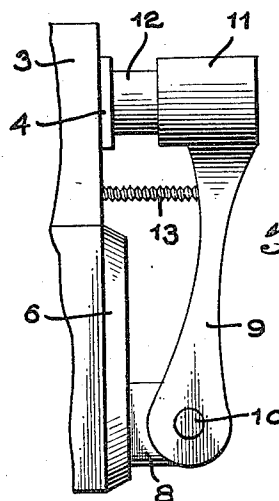


Fig. 4.

Fig. 3.



Witnesses
L. R. Meyer
R. H. Krentel

Inventor
Julius Benz.

By Joshua R. F. Folsom
Attorney

J. BENZ.
ATTACHMENT FOR LOOMS.
APPLICATION FILED JULY 27, 1912.

1,063,409.

Patented June 3, 1913.
2 SHEETS—SHEET 2.

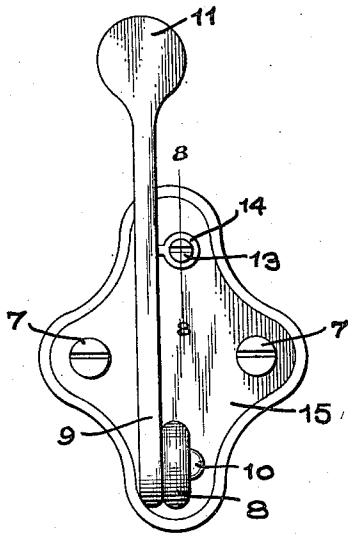


Fig. 6.

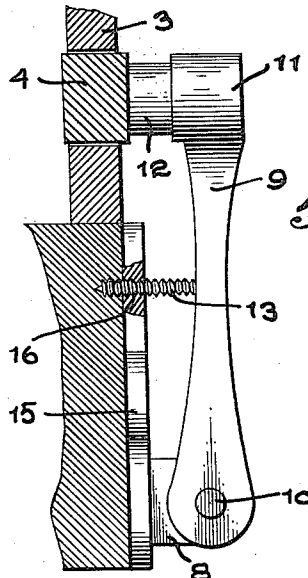


Fig. 7.

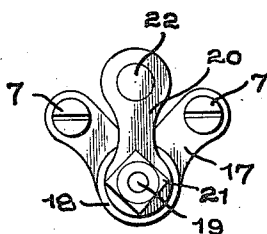


Fig. 9.

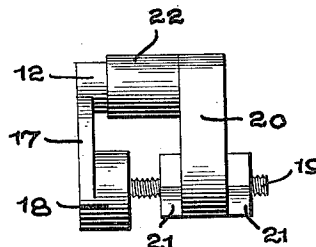


Fig. 10.

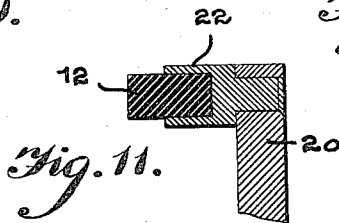


Fig. 11.

Witnesses
L. Q. Meyer
R. H. Krenkel

Inventor
Julius Benz.

By Joshua R. F. F. F.
Attorney

UNITED STATES PATENT OFFICE.

JULIUS BENZ, OF BETHLEHEM, PENNSYLVANIA.

ATTACHMENT FOR LOOMS.

1,063,409.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed July 27, 1912. Serial No. 711,802.

To all whom it may concern:

Be it known that I, JULIUS BENZ, a citizen of Switzerland, residing at Bethlehem, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Looms, of which the following is a specification.

My invention relates to an improved attachment for looms, the object of the invention being to provide an attachment which is designed to be used in connection with the swells of an ordinary shuttle box, and which will prevent any possibility of the shuttle rebounding when it enters the box.

A further object is to provide a device of this kind which can be quickly attached to any ordinary loom and which will result in a vastly improved product because it will prevent any slack in the threads, and the goods will be free of loops and be perfectly smooth.

It is a common defect with looms such as ordinarily made particularly in the weaving of silk that the shuttles rebound from the shuttle boxes. This causes a slack in the silk or thread carried by the shuttle and the result is a defect in the goods. My improved attachment is designed to prevent any rebound of the shuttle, thereby causing the thread or silk to be always taut and insuring a uniform product superior to the product of looms in general use.

A further object is to provide an attachment of this character which can be attached to the shuttle box by any one of average intelligence not requiring skilled labor, and the invention consists in certain novel features of construction and combinations and arrangements of parts as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1 is a fragmentary view illustrating the lay of a loom and showing my improved attachment in connection with the shuttle boxes. Fig. 2 is a view in elevation on an enlarged scale illustrating my improved device in operative relationship to a shuttle box swell. Fig. 3 is a view in section on the line 3—3 of Fig. 2. Fig. 4 is a view in elevation at right angles to Fig. 2. Fig. 5 is a view in section through the cushioned head of the device. Fig. 6 is a view in elevation illustrating a modification. Fig. 7

is a view at right angles to Fig. 6 showing the device in elevation and partly in section. Fig. 8 is a view in section on the line 8—8 of Fig. 6. Figs. 9 and 10 are views in elevation at right angles to each other illustrating another modification, and Fig. 11 is a view in section through the head of the device shown in Figs. 9 and 10.

1 represents the lay of a loom having the ordinary shuttle race 2 and the ordinary shuttle boxes 3 at the ends of the race. These shuttle boxes 3 are equipped with swells 4 of any improved construction, and these swells have a hinged mounting at one end as shown at 5, and are normally held in position to be engaged by the shuttle as is common with devices of this type in use. I would therefore have it understood that my invention is not limited to any particular construction of shuttle box or swell but is adapted to be used with any, and without modifying the construction of the box or swell in the slightest. These swells have ordinarily been equipped with springs which serve to retard the movement of the shuttle, but they are not sufficient to prevent the shuttle from rebounding.

My improved attachment is designed to prevent any possibility of the rebound of the shuttle, and I have illustrated three different forms of my improved device.

With reference to the construction shown in Figs. 1, 2, 3, 4, and 5, 6 represents a base plate which is adapted to be secured to the lay by screws 7. This base plate is provided with a perforated post 8 to which an arm 9 is pivotally connected by means of a rivet 10. On the free end of this arm 9, a cylindrical head 11 is formed, and in this cylindrical head 11, a block 12 of rubber or other elastic material is positioned. This rubber block 12 bears directly against the swell 4, and is held against the same by means of a screw 13. This screw 13 is positioned through a perforated tongue 14 integral with the arm 9 and having its enlarged head bearing against the outer face of said tongue, so that the pressure of the cushion block 12 against the swell may be regulated to exactly suit conditions. When the shuttle moves into the box, the rubber block 12 will elastically resist the movement of the swell to such an extent that the shuttle will be sufficiently bound within the box to prevent any possibility of rebounding. The screw 13 is illustrated as screwed into the box 3 and by

turning this screw, the tension of the elastic block may be regulated. Such a device will last for a long time, but if the block loses its elasticity, it can be readily replaced.

5 In the modification illustrated in Figs. 6, 7, and 8, a somewhat different design of base 15 is employed. The screw 13 engages the threads in an opening 16 in the base 15 as well as being screwed into the lay. Such a
10 structure gives a more rigid support to the arm.

In the modification illustrated in Figs. 9, 10, and 11, a V-shaped base plate 17 is employed which is provided with an enlargement 18 having a screw-threaded rod 19
15 fixed therein. This rod 19 projects through an opening in an arm 20 corresponding to arm 9, and nuts 21 are provided on the rod 19 at opposite sides of arm 20 so as to lock
20 the arm at various adjustments. This arm 20 has a head 22 fixed in its outer end and this head 22 is recessed to accommodate the cushion block 12 as above explained.

It will thus be seen that my attachment
25 may be made in various forms, but in any event will be provided with means for adjusting the pressure of the elastic cushion against the swell, so that the swell may be given just the necessary pressure to prevent
30 any possibility of the shuttle rebounding.

The attachments may be sold to the trade and used in connection with any ordinary loom, and various other slight changes might
35 be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such
40 changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

45 1. An attachment of the character described, comprising a support, a shuttle swell engaging member projecting at one end beyond the support, means for adjusting said member toward and away from the

support, and a cushioning device on the free end of said member adapted to be positioned
50 against the swell of a shuttle box, substantially as described.

2. An attachment of the character described, comprising a support, an arm adjustable on said support, said arm having a
55 hollow head at its free end, an elastic cushion in said hollow head adapted to be positioned against the swell of a shuttle box, and means for adjusting the arm toward and away from the support, substantially as 60 described.

3. An attachment of the character described, comprising a support, an arm adjustable on said support, said arm having
65 a hollow head at its free end, an elastic cushion in said hollow head adapted to be positioned against the swell of a shuttle box, a screw engaging the arm and constructed to adjust the same toward and away from
70 the support, substantially as described.

4. An attachment of the character described, comprising a base, a post on the base, an arm pivotally connected to the post,
75 a cushion block supported in the free end of the arm, a perforated tongue on the arm between its ends, and a headed screw projected through said tongue and adapted to adjust the arm toward and away from the
80 base, substantially as described.

5. In a loom, the combination with a lay, 80 shuttle boxes on the lay, and movable swells in the shuttle boxes, of swell engaging devices comprising base plates secured to the lay, arms pivotally connected to the base
85 plates, cushion blocks in the free ends of the arms, and screws engaging said arms and screwed into the boxes, whereby the cushion blocks are adjusted toward and away from the swells, substantially as described.

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

JULIUS BENZ.

Witnesses:

OTTO BURKHARDT,
HANS ALBERT ZINGGELER.