

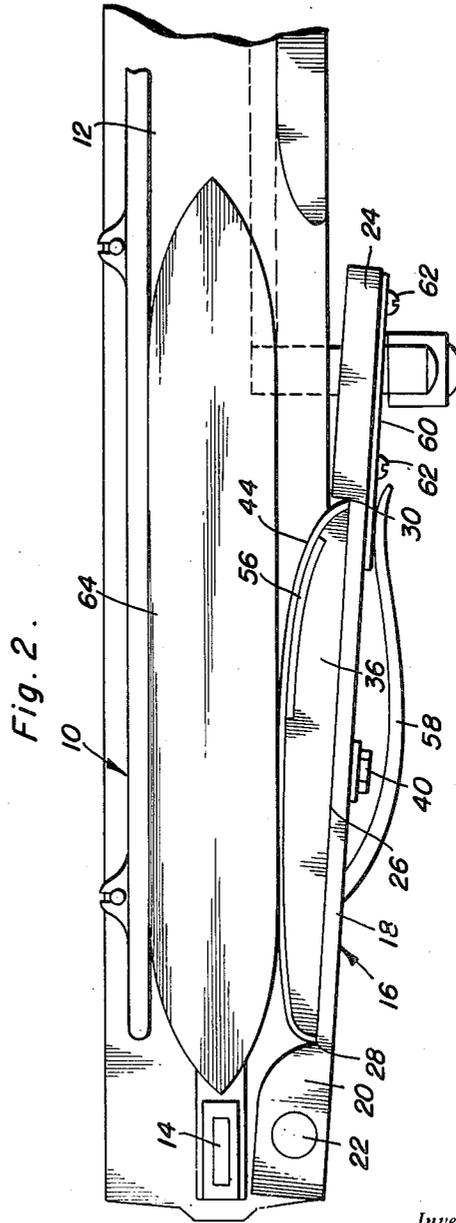
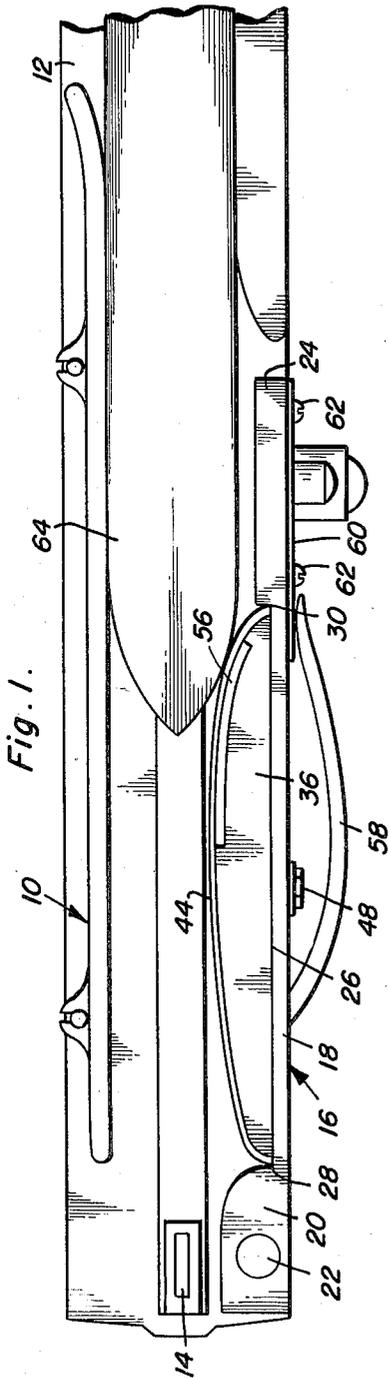
March 6, 1951

C. GALLAND
SHUTTLE BINDER

2,544,015

Filed Nov. 15, 1949

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

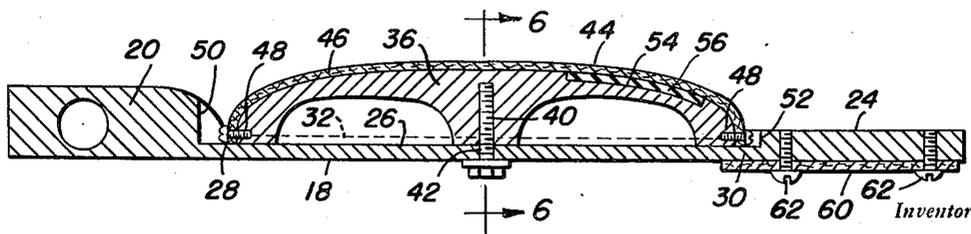
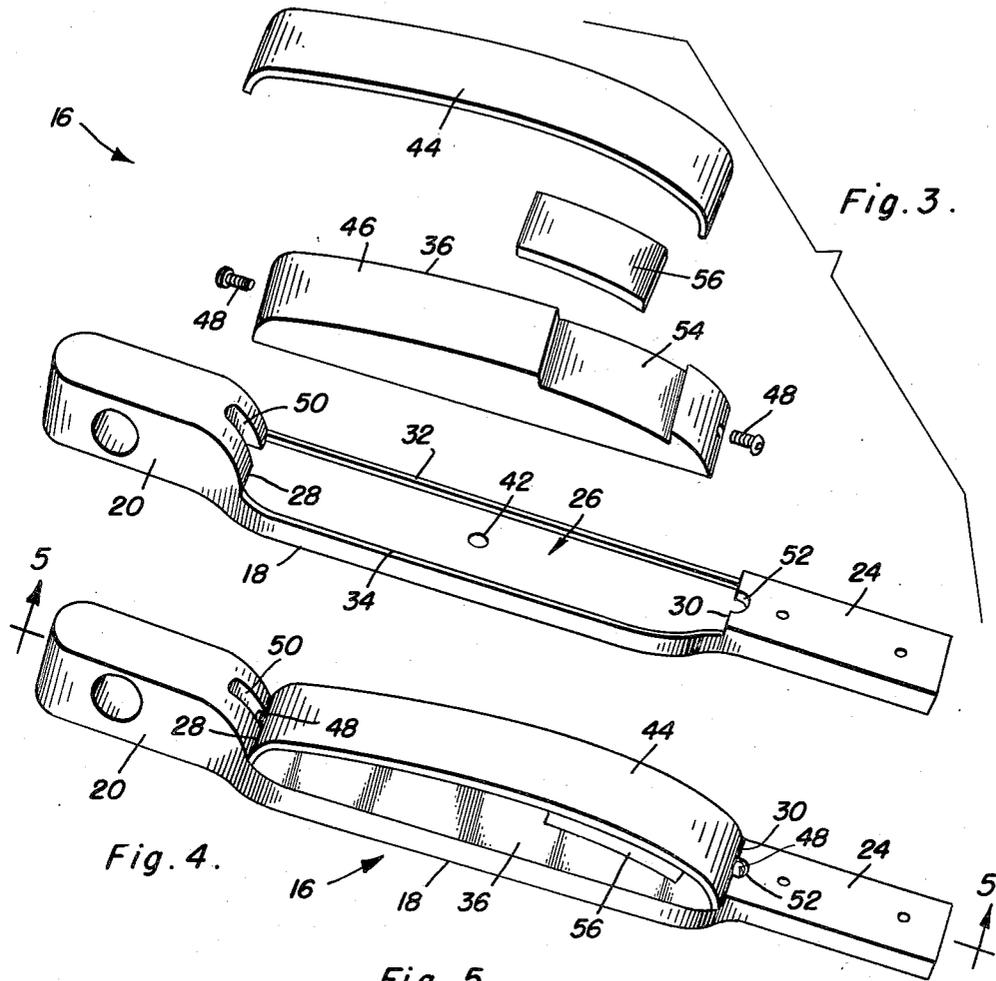
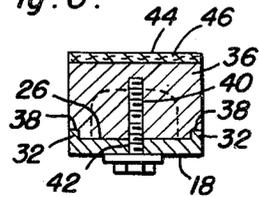


Fig. 6.



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SHUTTLE BINDER

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3 Claims. (Cl. 139—185)

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This invention relates to new and useful improvements and structural refinements in shuttle binders for looms, and the principal object of the invention is to provide a shuttle binder of the character herein described which embodies in its construction a pivotally mounted shoe and a swell carrying a frictional shuttle engaging member, an important feature of the invention residing in the provision of means for removably securing the swell to the shoe so that the former may be quickly and easily separated from the latter for the purpose of replacing the frictional shuttle engaging member, this being possible without disturbing in any way the mounting and adjustments of the shoe itself.

Another object of the invention is to provide a shuttle binder including a removable swell having a replaceable frictional shuttle engaging member thereon, together with a pad of shock absorbing material provided under that portion of the shuttle engaging member which meets the incoming shuttle and is thus subjected to more strenuous wear.

Some of the advantages of the invention reside in its simplicity, in its durability and in its adaptability to economical manufacture.

With the above more important objects and features in view, and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a fragmentary top plan view of a shuttle box, lay, and shuttle binder, illustrating a shuttle as entering the box.

Figure 2 is a fragmentary top plan view, similar to that illustrated in Figure 1, but showing the shuttle in the box.

Figure 3 is a group perspective view of the shuttle binder per se.

Figure 4 is an assembled perspective view of the binder.

Figure 5 is a longitudinal sectional view, taken substantially in the plane of the line 5—5 in Figure 4; and,

Figure 6 is a cross sectional view, taken substantially in the plane of the line 6—6 in Figure 5.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, more particularly to Figures 1 and 2 thereof, the general reference character 10 designates a shuttle box provided at the end of a lay 12, while 14 designates the usual picker stick and

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16 indicates the shuttle binder constructed in accordance with the invention.

Needless to say, this arrangement is duplicated at both ends of the lay 12, but apart from the fact that the shuttle boxes and binders are of opposite hand, their construction is similar so that a description of one will suffice for both.

The shuttle binder 16 contemplates the provision of an elongated shoe 18, one end portion of which is thickened as at 20 to accommodate a conventional pivot element 22 whereby the entire binder is mounted in the shuttle box 10.

The free end portion 24 of the shoe 18 is also thicker than the intermediate portion of the shoe so that in effect, an elongated recess or socket 26 exists between the end portions 20, 24, as is best illustrated in Figure 3. The inner edges 28, 30 on the respective portions 20, 24 afford what may be referred to as shoulders at the ends of the recess 26, while a pair of spaced, upstanding flanges 32, 34 are provided at the longitudinal edges of the recess, as shown.

An elongated swell 36 is removably positioned in the recess or socket 26, the flat inner surface of the swell being provided at longitudinal edges thereof with open sided grooves 38 to accommodate the flanges 32 (see Figure 6) while the ends of the swell abut the shoulders or edges 28, 30. In this manner the swell 36 is properly located in position on the shoe 18 and is preferably attached thereto by a single fastening element or screw 40 extending into the swell through a suitable aperture 42 with which the shoe is provided.

A frictional shuttle engaging member assuming the form of a leather strap 44, or the like, is mounted on a convex outer surface 46 of the swell 36 by suitable screws 48, and it is to be observed that the end portions 20, 24 of the shoe 18 are provided with recesses 50, 52 respectively to accommodate the heads of the screws when the swell 36 is applied to the shoe.

It will be also observed that the convex surface 46 of the swell 36 is provided in one end portion thereof with a recess 54 in which is positioned a pad 56 of suitable shock absorbing material, this being so arranged that the shuttle engaging member 44 extends over the pad 56, substantially as illustrated.

The entire shuttle binder 16 is urged into the box 10 by means of a conventional spring 58, the free end portion of which, in this instance, bears against a pad 60 secured to the end portion 24 of the shoe 18 by a plurality of screws 62.

As is best shown in Figure 1, the shock absorbing pad 56 is disposed under that portion of the

shuttle engaging member 44 which is first contacted by the shuttle 64 when the latter enters the box 10, in which manner the "entrance" portion of the member 44 is rendered slightly more resilient and less susceptible to injury.

However, when wear of this region of the shuttle engaging member ultimately develops, the entire swell 36 may be simply removed from the shoe 18 by withdrawing the single screw or fastening element 40, after which the position of the member 44 on the swell 36 may be reversed or the member 44 may be altogether replaced, this being effected by simply removing the screws 48. Similarly, the pad 56 is retained in position in the recess 54 solely by the member 44 which is stretched over the pad, so that the pad may be expeditiously replaced when the member 44 is removed from the swell.

Over and above the advantages resulting from diminished wear, it will be found that the provision of the pad 56 under the member 44 will present a softer and more gentle, yet sufficiently effective breaking action to the speeding shuttle as the latter enters the box, the full position of the shuttle in the box being illustrated in Figure 2.

It is believed that the advantages and use of the invention will be clearly apparent from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

1. A shuttle binder comprising an elongated shoe pivoted at one end thereof in a shuttle box

and provided intermediate the ends thereof with an elongated socket, an elongated swell removably positioned in said socket, said swell and said socket having interfitting grooves and flanges for locating the swell in the socket, and a fastening element extending through said shoe into said swell for removably securing the latter in position.

2. A shuttle binder comprising an elongated shoe pivoted at one end thereof in a shuttle box and provided intermediate the ends thereof with an elongated recess constituting a swell socket, portions of said shoe at longitudinal edges of said recess affording a pair of locating flanges, an elongated swell removably positioned in said socket and provided at opposite longitudinal edges thereof with a pair of open sided grooves to receive said locating flanges, and a fastening element extending through said shoe into said swell for removably securing the latter in the socket.

3. In a shuttle binder, the combination of an elongated shoe and a removable swell secured thereto, said swell comprising an elongated body having a convex outer surface and a substantially flat inner surface in abutment with said shoe, a frictional shuttle engaging member mounted on the outer surface of said body, said body being provided in one end portion of its outer surface with a recess, and a shock absorbing pad positioned in said recess under said shuttle engaging member.

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