Nov. 12, 1935. O. SHIMWELL 2,020,742

SLAY SOLE FOR LOOMS

Filed Dec. 12, 1934 2 Sheets-Sheet 1

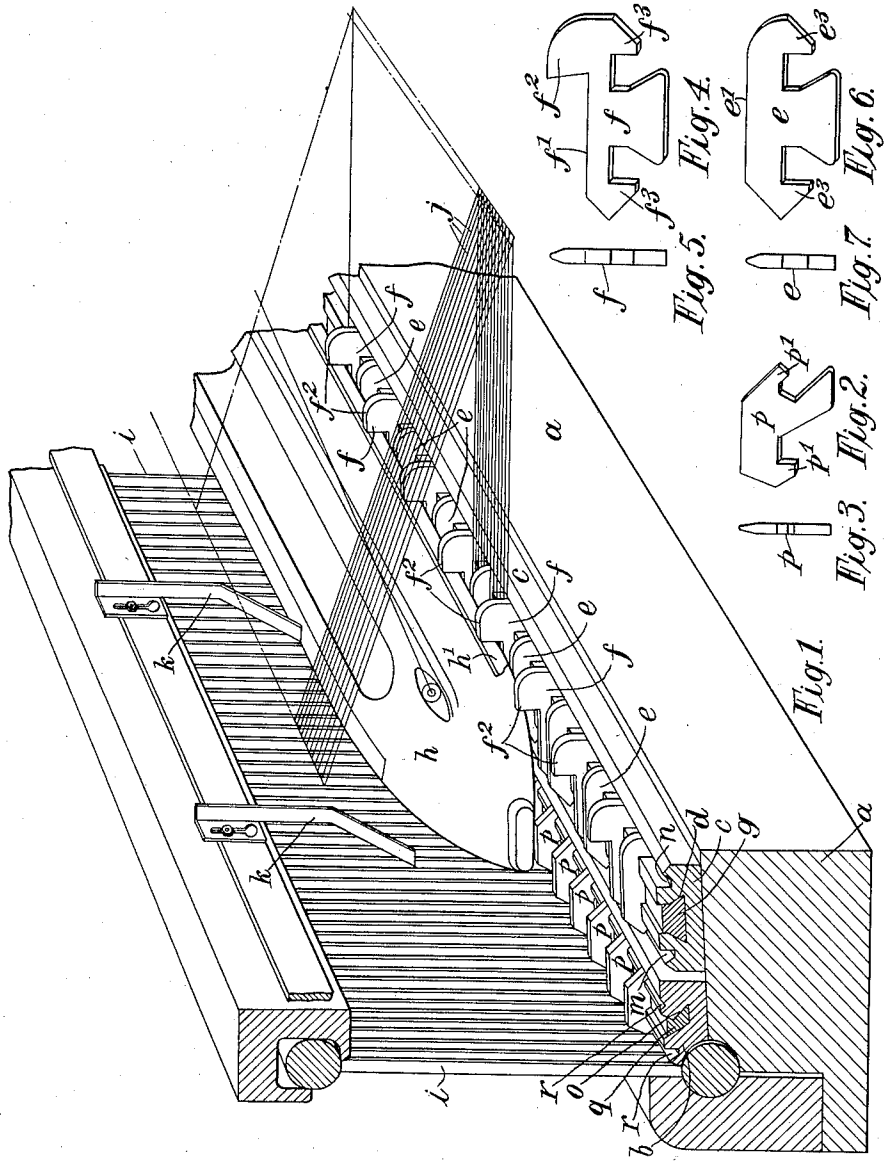


Fig. 1.

Fig. 4. Fig. 5. Fig. 6. Fig. 7.

Fig. 2. Fig. 3.

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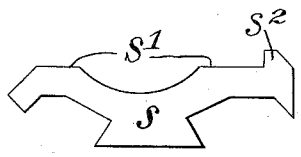


Fig. 9.

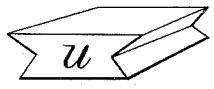


Fig. 10.

Fig. 8.

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SLAY SOLE FOR LOOMS

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Application December 12, 1934, Serial No. 757,225
In Great Britain December 14, 1933

9 Claims. (Cl. 139—188)

This invention relates to a slay sole or a plate for attachment to a slay sole for a loom for weaving of the type in which the shuttle or weft carrier when in flight through the shed is supported clear of the lower row of warp threads upon a series of raised ridges provided upon the said slay sole or plate, between which ridges the lower row of warp threads pass, and in which a series of fingers or projections, upon the said slay sole or plate engage the side of the shuttle or weft carrier while in flight and hold it against the reed. Such slay sole or plate is hereinafter referred to as a slay sole of the class specified.

In the specification of my prior Patent No. 1,983,409, there is described a construction of sole plate upon the slay which provides raised ridges upon which the shuttle rides above the lower row of warp threads, and means to hold the shuttle against the reed. My invention has for its object to provide an improved construction of such sole plate which is economical to make and efficient in action.

The invention comprises the provision of a rail or rails upon the slay sole with a dovetail or undercut recess therein to receive spaced stampings providing the track for the shuttle to ride upon above the lower row of warp threads in the shed, and the fingers or projections for holding the shuttle against the reed when in flight.

The invention further comprises the provision of a single rail extending across from side to side of the slay sole and having a dovetail recess therein to receive in alternation stampings providing the shuttle track and the means for holding the shuttle against the reed and spacing pieces which do not project above the sole face, the lower sides of the ends of the stampings coming below the level of the lower row of warp threads in the shed so as to prevent damage to or trapping of the threads during shedding.

The invention further comprises the provision of two rails extending parallel to one another across the slay sole, each rail having an undercut recess therein to receive stampings and distance pieces, the stampings providing a track for the shuttle to ride upon above the lower row of warp threads in the shed and the means for holding the shuttle against the reed.

Referring to the accompanying sheets of explanatory drawings:—

Figure 1 is a perspective view showing a loom slay with shuttle and reed, the slay being constructed in one convenient form in accordance with this invention.

Figures 2 to 7 are detail views of parts of the shuttle track portion of the loom slay shown in Figure 1, each part being shown in perspective and in end elevation.

Figure 8 is a perspective view showing a modified construction of the shuttle track portion of the loom slay in accordance with this invention.

Figures 9 and 10 are detail views of the removable parts of the shuttle track shown in Figure 8.

In Figures 1–7, the sole plate *a* of the slay has two rails *b*, *c* secured thereon by screwing or otherwise. The rail *c* has a dovetail recess therein at *d* to receive stampings *e* and *f* and short strips or blocks *g*. Each of the stampings *e* and *f* projects above the surface of the rail *c*, the stampings *e* alternating with the stampings *f* and each stamping provides a flat surface at e^1, f^1 upon which the shuttle *h*, Figure 1, can ride. Preferably as shown in Figures 5 and 7, the top edge of the stamping is thinned down to reduce abrasion of the shuttle by the edges of the stampings as the shuttle travels over the same at high speed. The stampings *f* have also an upstanding part f^2, which comes against the front lower edge of the shuttle at h^1, Figure 1, where a hardwood strip is placed, so that the shuttle is held up to the reed *i* in its flight across the loom through the shed formed by the warp threads *j*. The shuttle is held down on to the slay by the overhead arms *k* as described in my prior patent application before referred to.

It will be seen that the rail *c* has two grooves or recesses *m* and *n* running longitudinally thereof at the opposite sides of the dovetail groove *d*, the said grooves or recesses *m* and *n* receiving the turned down or downwardly projecting ends e^3 and f^3 of the parts *e* and *f* which are shown clearly in Figures 4 and 6. The parts e^3 and f^3 project below the level of the lower row of warp threads *j* in the shed so that they cannot cut such threads; they are also shielded by being located in the grooves *m* and *n*.

The rail *b* has a semi-dovetail recess *o* therein to receive the base portions of stampings *p* (one of which is shown in detail in Figures 2 and 3) and of strips or blocks *q* which space the stampings *p* the requisite distance apart. The upper surface of each stamping *p* provides a portion of the track upon which the shuttle rides and may be thinned down as shown in Figure 3 for the purpose previously indicated in connection with the stampings *e* and *f*. The downwardly projecting ends p^1, of the stampings *p* enter grooves *r* in the rail *b* so that they cannot damage the lower row of warp threads.

The warp threads in the lower row of the shed

pass between the stampings *p* and the stampings *e* and *f* and come below the level of the flat surfaces of such stampings upon which the shuttle rides so that the shuttle is clear of the warp threads.

The rails *b* and *c* may be made of wood, metal or other material. The spacing blocks or strips *g* and *q* may be made of any desired material. The stampings and blocks are readily assembled in the rails *b* and *c* and are also cheap to produce so rendering possible the economical production of means for controlling the shuttle in its flight.

In the construction shown in Figures 8, 9 and 10, the stampings *s* replace the two sets of stampings *p* and *e* or *f* shown in Figure 1. There is therefore only one rail *t* necessary to receive the stampings *s* and the spacing pieces *u*, the rail *t* having a dovetail groove therein into which the stampings and spacing pieces are passed. The stampings provide a flat track at s^1 for the shuttle to ride upon in its flight through the shed and upward projections s^2 to keep the shuttle against the reed *i*. The lower sides of the ends of the parts *s* extend below the level of the lower row of warp threads in the shed so that such threads are not damaged thereby. The rail *t* is bevelled at its opposite upper sides to receive the turned down or downwardly extending ends of the stampings *s*.

What I claim is:—

1. A slay sole of the class specified comprising at least one rail upon and extending along the upper surface of said sole, and having a longitudinal undercut recess therein, stampings fitting into and projecting from the said recess and constituting the ridges and fingers specified, and spacing pieces also arranged within the said recess and spacing the said stampings apart one from another.

2. A slay sole of the class specified comprising a single rail having a longitudinal undercut recess therein mounted upon and extending along the upper surface of said sole, stampings fitting into and projecting from the said recess and constituting the ridges and fingers specified, and spacing pieces also arranged within the said recess and spacing the said stampings apart one from another.

3. A slay sole of the class specified comprising a rail upon and extending along the upper surface of said sole and having a longitudinal undercut recess therein, stampings fitting into and projecting from the said recess, and constituting the ridges specified, spacing pieces also arranged in the said recess and spacing the said stampings apart one from another, a second rail upon and extending along the upper surface of said sole parallel to said first mentioned rail, and having a longitudinal undercut recess therein, stampings fitting into and projecting from the said recess and constituting the fingers specified and spacing pieces also arranged in the said recess and spacing the said stampings apart one from another.

4. A slay sole as claimed in claim 1 wherein the lower parts of the ends of the stampings specified extend below the level of the upper surface of the rail specified.

5. A slay sole as claimed in claim 2 wherein the lower parts of the ends of the stampings specified extend below the level of the upper surface of the rail specified.

6. A slay sole as claimed in claim 3 wherein the lower parts of the ends of the stampings specified extend below the level of the upper surfaces of the rails specified.

7. A slay sole as claimed in claim 1 wherein the said stampings are formed with downwardly projecting portions at their ends which are received within grooves formed in the upper surface of the rail specified.

8. A slay sole as claimed in claim 2 wherein the said stampings are formed with downwardly projecting portions at their ends which are received within grooves formed in the upper surfaces of the rail specified.

9. A slay sole as claimed in claim 3 wherein the said stampings are formed with downwardly projecting portions at their ends which are received within grooves formed in the upper surfaces of the rails specified.

OLIVER SHIMWELL.