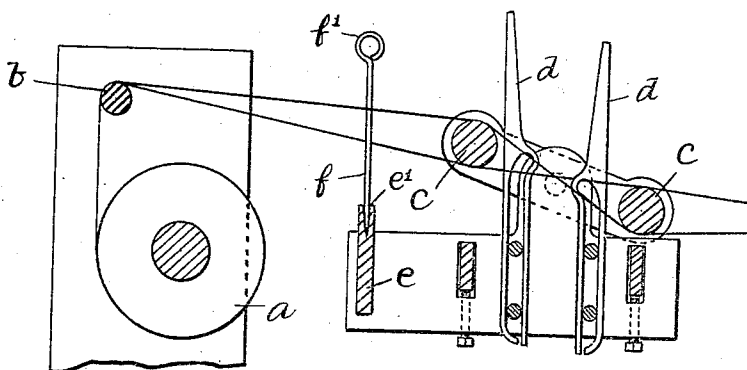
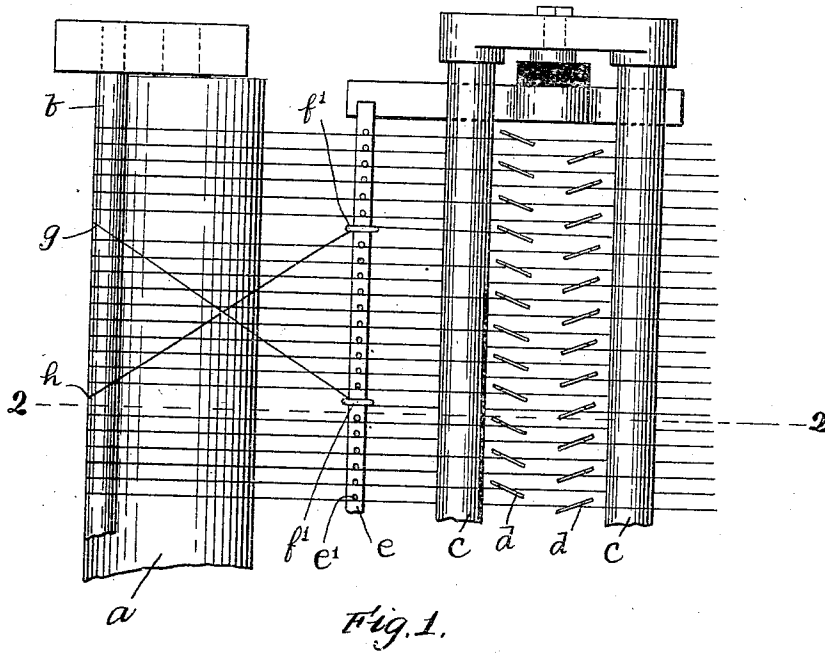


J. ROBINSON.
 THREAD GUIDE FOR LOOMS.
 APPLICATION FILED MAY 13, 1909.

943,270.

Patented Dec. 14, 1909.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSHUA ROBINSON, OF LAWRENCE, MASSACHUSETTS.

THREAD-GUIDE FOR LOOMS.

943,270.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed May 13, 1909. Serial No. 495,684.

To all whom it may concern:

Be it known that I, JOSHUA ROBINSON, of Lawrence, county of Essex, State of Massachusetts, have invented an Improvement in Thread-Guides for Looms, of which the following is a specification.

In the operation of looms it is customary to provide a number of extra threads on the warp beam corresponding, ordinarily, to the number of different shades or colors of which the warp is composed, so that whenever a warp thread breaks and the broken ends cannot be brought together and connected, a corresponding extra thread will be carried into the warp, and the thread which was broken becomes an extra thread. The extra threads are usually provided at intervals, or in a single bundle, on the warp beam, at the beginning of the operation, but in most instances it is necessary to draw a thread obliquely from the beam or whip-roll to the point at which the thread must enter the warp. The obliquely entering thread causes a transverse pull on the adjacent threads drawing them to one side of the positions in which they should be held, thereby causing tight threads, in many instances, causing defects in the cloth produced. When warp stop motion devices are employed, which comprise a series of drop wires or forks which ride on the threads, the transverse pull on a warp thread causes the adjacent drop wires to be drawn closely together, so as to interfere with the free action thereof, and thereby also frequently causing particularly serious defects in the cloth.

The object of my invention is to provide means whereby threads may be led obliquely into the warp from the warp beam and so guided that said threads may be drawn approximately parallel to the other warp threads, as they enter the warp, said guiding operation being accomplished without in any way interfering with the other threads of the warp. I accomplish this object by providing a transverse supporting bar, having a series of sockets therein, in which guiding pins may be inserted at different points, so that the thread may be caused to run about said pins and the thread be drawn into the warp in the desired direction. The particular means which I preferably employ to accomplish said objects are

shown in the accompanying drawing, in which—

Figure 1 is a plan view of one end portion of a loom provided with my invention. Fig. 2 is a sectional view, on line 2—2 of Fig. 1.

As shown in the drawing, *a* indicates the warp beam, *b* the whip-roll and *c* the lease rods over and under which the warp threads pass as they are drawn to the shed, and between which the drop wires or contact forks *d* are arranged to ride on the warp threads, in a manner well known in the art.

According to my invention I provide a cross bar *e*, which is rigidly mounted in the frame of the loom adjacent and in the rear of the lease rods and beneath the warp threads, as they run from the whip-roll to the lease rods, and in the upper edge of said bar I provide a series of sockets *e'*, arranged as close together as is practicable. I further provide a plurality of guide pins *f*, which are adapted to fit in said sockets and to be held therein in vertical position, said pins being preferably of stiff, smooth wire of small diameter, each being bent to form a handle *f'* at one end and being pointed at its opposite end to enable it to be readily inserted in any one of said sockets, in which position it extends through the warp and a short distance thereabove.

With the above described device, when a warp thread breaks, a corresponding spare thread, as *g*, must usually be taken from some place on the warp beam not directly in line with the broken thread and drawn across the warp to the point at which the break occurred. In employing my invention one of the pins *f* is inserted through the warp in a socket of the bar *e* at a point in line with the broken thread and the extra thread is drawn against and partly about this pin before it is drawn into the harness, so that, as it passes from the pin into the harness, it will be drawn approximately parallel to the other threads, and there will be no tendency to draw the adjacent threads and drop wires to one side of their normal and desired positions. The broken thread thus becomes an extra thread, as *h*, which may later be drawn into some other part of the warp, about another guide pin, as indicated in Fig. 1, or into its proper place. Said bar *e* may be of soft wood, in which

the pointed pins *f* may be readily inserted at any point, so that they practically form their own sockets, but it is preferable to have the sockets formed in the bar when it is
5 manufactured.

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

1. In combination with a loom having a
10 warp beam provided with extra threads, a support extending transversely of and beneath the warp as it is drawn forwardly from the warp beam, and one or more guide pins adapted to extend through the warp
15 and to be held in said support at different longitudinal points therein, to provide guiding means for an extra thread as it is drawn from points on the beam out of line with threads adjacent the point at which it enters
20 the warp, to cause it to be drawn into the warp approximately parallel to the other threads, substantially as described.

2. In combination with a loom having a

warp beam provided with extra threads, a support extending transversely of and be- 25 neath the warp as it is drawn forwardly from the warp beam and having a series of sockets arranged therein at different longitudinal points, and guide pins adapted to be removably supported in said sockets and
30 to extend through the warp to provide guiding means for extra threads drawn from points on the beam out of line with threads adjacent the points at which the extra
35 threads enter the warp and to cause said extra threads to be drawn into the warp approximately parallel to the other threads, substantially as described.

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

JOSHUA ROBINSON.

Witnesses:

L. H. HARRIMAN,
H. B. DAVIS.