To all whom it may concern:

Be it known that I, ROBERT JAMIESON, of Hopedale, in the county of Worcester and State of Massachusetts, have invented a new

and Improved Thread Tension for Loom-Shuttles, of which the following is a specification.

The present invention relates to automatically threading shuttles of the character used in web replenishing looms wherein the replenishment is effected by ejecting the spent web carrier from the shuttle and substituting in its place a filled web carrier and consists in the means employed to increase the tension on the thread.

The improvements are illustrated in the accompanying drawings, wherein—

Figure 1, is a plan view of the eye end of the shuttle with the present improvements applied and with parts broken away to facilitate illustration. Fig. 2, is a view which is partly in plane and partly in transverse section. Fig. 3, is a vertical section in the plane indicated by the line 3—3 in Fig. 2.

Fig. 4, is a transverse section in the plane indicated by the line 4—4 in Fig. 1. Figs. 5, 6 and 7, are detail perspective views of the block which carries the fibrous material which imparts tension to the thread.

The improvements are shown as applied to an automatically threading shuttle which is similar to that shown in the application of Edward S. Stimpson, Serial No. 855,455, filed August 6, 1914. The shuttle A, has a threading chamber B, at its eye end in which is located a sheet metal threader. This sheet metal threader comprises separated vertical side walls C, D, with a threading passage E, between them; a beak F, at the outer end which overhangs the outer end of the threading passage and directs the thread to the slotted eye G, of the shuttle; a guard H, at the outer end of the threading passage which overhangs the beak F; and a guard I, at the inner end of the threading passage which retains the thread in the threading passage between the two side walls of the shuttle. The threader is held in place by means of a transverse bolt J, which extends through apertures in the shuttle body and in the walls of the threader. The thread deflector K, is a block of hard metal fitting snugly between the side walls C, and D, of the threader and resting on the bottom thereof. It is held in place by the transverse bolt J, extending through a hole α, in the deflector, and by a forwardly projecting nose δ, which enters an aperture e, in the front wall of the threader. This deflector has a lower portion δ, and an upwardly projecting front face ε, which constitute the floor and front wall, respectively, of the threading passage E. The outer end of the deflector terminates just before the thread reaches the eye so that the thread in passing from the threading passage to the eye reeves around the outer end of the deflector. The deflector fills the space between the walls C, and D, thus maintaining said walls properly spaced and is similar to that set forth in the application of Edward S. Stimpson, Serial No. 855,455, filed August 6, 1914. The devices, as thus far described, are similar to those shown in said application.

In accordance with the present improvement a piece of fibrous material such as heavy felt L, is stretched over the floor δ, of the threading passage E, and around the outer end of the deflector. It is obvious that any similar rough material may be substituted for the felt. The felt or other rough material is fastened and held in its stretched position by means of a horizontal slit f, on the bottom of the deflector, on the shuttle chamber side of the hole α, and by means of another, but diagonal and vertically extending, slit g, in the front wall h, of the deflector, cut preferably between the forwardly projecting nose δ, and the transverse hole α. These slits are just wide enough to tightly hold the felt when it is forced in, such method having been found to be sufficient to keep the felt in place. The felt or other rough material extends from the slit f, in the bottom of the deflector, up the inner wall i, over the floor δ, of the threading passage (the felt being wide enough to cover the front wall e, of the threading passage), around the outer end δ, of the deflector, thence across a portion of the front wall h, of the deflector, and is secured in the slit g, in the front wall h, as above described. The position of the felt or other material is such that as the thread passes along the threading passage E, and
reeves around the outer edge of the deflector K, on its way to the eye of the shuttle, it passes over this felt or other rough material, the fibrous condition of which causes tension to be exerted on the thread.

The two slits f and g, in the deflector block are in faces of the block which are alongside walls of the threading passage when the block is in position; that is to say, the slit \( f \), is between the under face of the block and the bottom face of the threading passage, and the slit \( g \), is between the front face of the block and the adjacent vertical face of the front wall of the sheet metal threader. As a consequence, when the deflector block is in place in the shuttle, the ends of the felt which are secured in the slits \( f \) and \( g \), are maintained securely in place without danger of working loose.

Three of the six faces of the deflector block are adjacent three faces of the sheet metal threader leaving three faces of the block exposed; and all three of these exposed faces are covered by the felt so that the thread can come in contact only with a felt covered surface of the block.

One of the principal features of this improvement is that the felt is fastened and stretched by special tools, this making the cost of the entire thread deflector so small that when one becomes too worn to be used, it can readily be removed and a fresh deflector inserted, with little loss.

I claim:

1. An automatically threading loom shuttle having a block having two slots one in its bottom and the other in its front wall, a rough fibrous tension material fastened at one end in the bottom slot thence passing around the inner end, the floor, the outer end and a portion of the front wall of the block and fastened at its other edge in the slot in the front wall of the block.

2. An automatically threading loom shuttle having in its thread passage a block \( K \) having the slits \( f \) and \( g \) in its bottom and side walls respectively in combination with the fibrous tension material \( L \) fastened at one end in the slit \( f \) thence passing around the block \( K \) and fastened at its opposite end in the slit \( g \).

3. An automatically threading loom shuttle having a block located in its threading passage, said block having two slits therein, which are in faces of the block which are alongside walls of the threading passage, in combination with tension material fastened at its opposite ends in said slits and extending between its two ends over all the exposed faces of the block, namely the floor, the outer wall and the inner wall of the said block.

In witness whereof, I have hereunto signed my name.

ROBERT JAMIESON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D.C."