Oct. 21, 1952 W. E. BURCHAM 2,614,587

THREAD SUPPORTING MEANS FOR SHUTTLES

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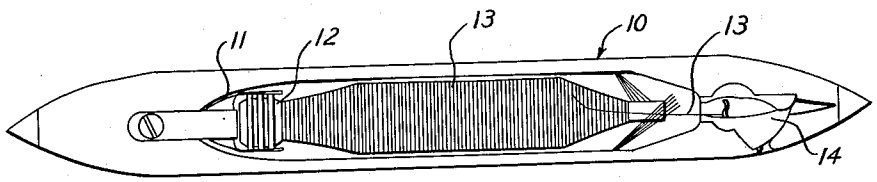


FIG -1

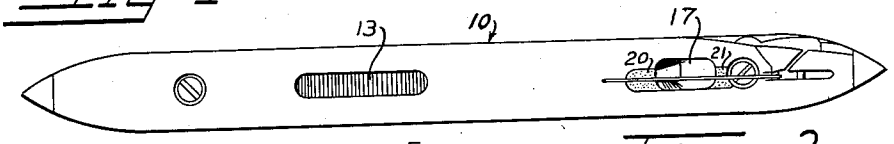


FIG -2

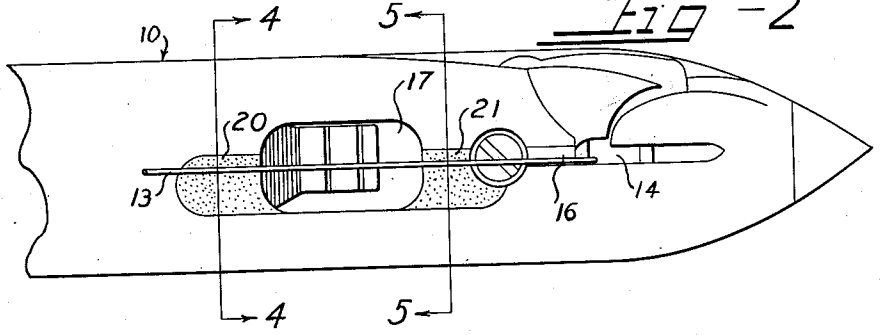


FIG -3

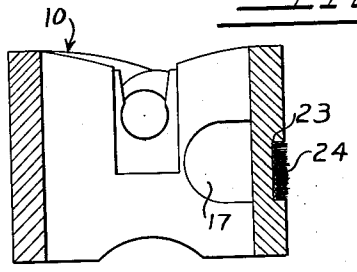


FIG - 4

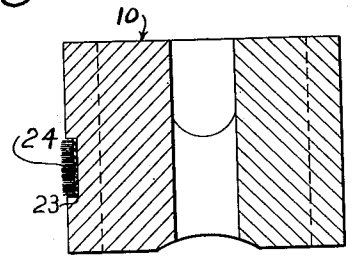


FIG - 5

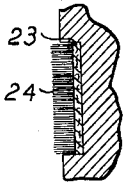


FIG - 6

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THREAD SUPPORTING MEANS FOR SHUTTLES

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5 Claims. (Cl. 139—196)

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This invention relates to an improvement in a shuttle used in weaving looms and provides means whereby the filling extending from the bobbin in the shuttle to the outside of the shuttle may be at all times supported in its proper position so as to enable a thread cutter such as is shown in Patents Number 2,028,560 of January 21, 1936; 2,093,696 of September 21, 1937; 1,768,502 of June 24, 1930 or 1,565,218 of December 8, 1925; wherein the thread cutter, usually in the form of a pair of scissors or shears extends through a slot in the side of the shuttle so as to pass astride the outgoing filling for severing the same.

Now, in the usual type of shuttle, there is a longitudinally extending groove extending all the way along the side of and about midway of the height of the shuttle in which the outgoing thread from the bobbin is disposed in a boxing operation. However, it often happens that, in the boxing of the shuttle, it will rebound slightly and, also, the filling is pinched between the box front and the side of the shuttle. It often happens that there will be slack occurring on that portion of the filling which extends across the slot in the shuttle to allow the filling to drop downwardly to a point where the shears will not straddle the same and thus the filling will not be parted when the shears are closed.

It is an object of this invention to provide means on each side of this slot in the shuttle for retaining the thread in a straight position and causing it to bridge the slot in the shuttle in a straight line and in its proper position, said means comprising a member disposed adjacent each end of the slot and across which the filling is passed and said means having a fuzzy or fiber like texture so the filling will attach itself to the fibers extending from the members and thus prevent the filling from falling downwardly, by gravity. These members are preferably made of animal hide such as a sheep's hide with the wool left thereon and sheared to the proper length so as to project only slightly beyond the outer surface of the shuttle, said hide being suitably secured in suitable cavities disposed in the side of the shuttle and on each side of the slot through which the thread cutter passes.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which—

Figure 1 is a top plan view of a shuttle with which my invention is associated;

Figure 2 is a side elevation of the shuttle showing the invention applied thereto;

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Figure 3 is an enlarged side elevation of the right-hand side of Figure 2;

Figure 4 is a vertical sectional view taken along the line 4—4 in Figure 3;

Figure 5 is a vertical sectional view taken along the line 5—5 in Figure 3;

Figure 6 is an enlarged detailed view of the central left-hand portion of Figure 5.

Referring more specifically to the drawings, the numeral 10 indicates a conventional shuttle of the type used in an automatic filling transfer loom equipped with a forked spring member 11 for holding the butt of a bobbin 12 which has filling yarn 13 thereon. The shuttle 10 is also equipped with a conventional shuttle eye 14 and the filling 13 is drawn from the tip of the bobbin through the shuttle eye and passes out into a groove indicated at 16 and passes across and alongside the outer side of the shuttle and back into the shed of the cloth being woven by the loom. The conventional shuttle has an elongated slot or opening 17 in the side thereof which is provided so the thread cutter or shears, such as are shown in any one of the above-noted patents, especially Patents Number 1,568,218 or 2,093,696, may enter.

As heretofore stated, the side of the shuttle nearest the observer in Figure 2 is usually provided with a longitudinal extending groove on that portion of the shuttle which will be engaged by the box front for accommodation of the filling thread 13 on its way from the eye of the shuttle to the selvage of the cloth being woven but, as before stated, sometimes the shuttle rebounds a bit and causes slackness in the filling so that, although it may be pinched against the side of the shuttle by the box front, that portion of the shuttle in which the slot 17 is disposed is usually of slightly smaller cross sectional dimensions than the rest of the shuttle so as not to pinch the thread on both sides of the slot 17 and as a result, when the shuttle rebounds slightly, the thread will sag down out of the path of the shears of the cutter and therefore will not be severed in a severing operation.

In order to overcome this difficulty in my shuttle, I have been able to dispense with the usual longitudinal extending groove in the side thereof because it is not needed and, in lieu thereof, I have provided a pair of cavities 20 and 21 on each end of the slot 17 and each of these cavities has suitably secured therein such as by a suitable adhesive, a suitable member such as a piece of sheep skin 23 having the wool left thereon. This wool projects outwardly, as indicated at 24, slightly beyond the outer surfaces

of the shuttle so that, as the filling thread 13 is passed across the slot 17 in a weaving operation, the same will adhere and cling to the wool or other fibrous, nappy material 24 on the members 23 and will therefore be prevented from falling downwardly and will remain in fairly taut condition bridging the slot 17 as shown in Figure 3.

It is thus seen that I have provided means for retaining the filling thread on the exterior of the shuttle in a straight line and approximately midway between the top and bottom walls of the slot 17 so that the thread cutter will properly engage the same when a transfer operation is taking place.

In the drawings and specification, there has been set forth a preferred embodiment of the invention and although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

I claim:

1. A shuttle having means for supporting a bobbin therein and having a shuttle eye through which the filling thread from the bobbin extends and having a slot in one of its side walls for the accommodation of thread cutting means, means for maintaining the outgoing filling in substantially taut condition across said slot comprising a pair of members, there being one member disposed at each end of the slot and having a napped or soft fibrous surface to which the filling will adhere and to thus maintain the filling in substantially straight condition across said slot.

2. In a shuttle for looms having means for holding a bobbin therein having filling thread thereon, and having a shuttle eye through which the filling thread extends, said shuttle having an elongated slot in one of its sides for the reception of thread cutting means, means for maintaining the filling thread in a substantially straight line and approximately midway of the top and bottom of said slot comprising means disposed adjacent one end of the slot and having a napped outer surface across which the

filling thread is drawn for maintaining the filling thread in a substantial medial position longitudinally of said slot.

3. An improvement in a shuttle for looms, said shuttle having a side wall and also having means for holding filling thread therein and also having a shuttle eye through which the filling extends, said improvement comprising a fuzzy textured member secured to the outer surface of said side wall adjacent said shuttle eye and across which the filling thread is adapted to be drawn whereby the filling thread will adhere to said member to maintain the elevation thereof.

4. In a loom shuttle having a slot in one of its side walls for the reception of thread cutting means, fibrous means disposed on each side of the slot and projecting slightly beyond the exterior surfaces of the shuttle and across which a filling thread is adapted to be drawn and the nappy texture of the members serving to cause adherance of the filling thread thereto to maintain the filling thread in elevated position.

5. An improvement in a shuttle of the type used on automatic filling replenishing looms in which a thread cutter is employed for severing a filling thread carried by said shuttle, said improvement comprising at least one member having a fuzzy texture secured to said shuttle at a point adjacent the point at which said thread cutter operates upon the filling thread and across which the filling is adapted to be drawn whereby the fuzzy texture of said member will serve to cause adherance of the filling thereto to maintain the filling in elevated position.

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