April 8, 1958 B. C. BAGGOTT 2,829,677

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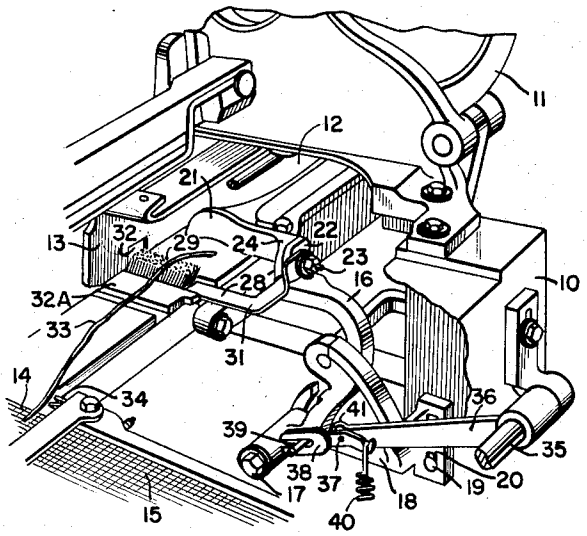

Fig. 1

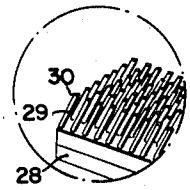

Fig. 6

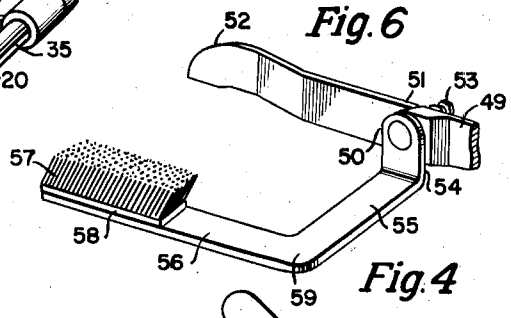

Fig. 4

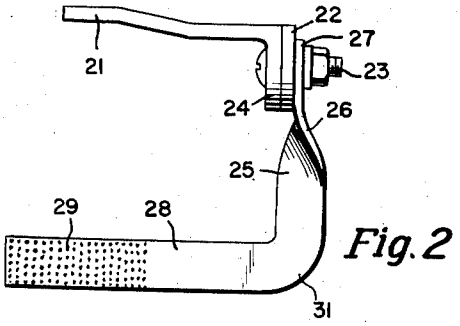

Fig. 2

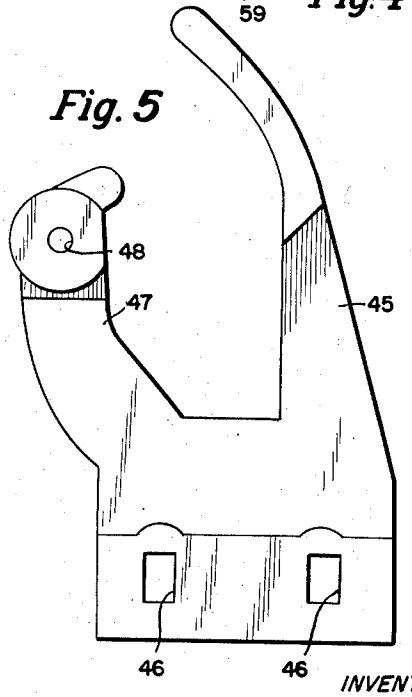

Fig. 5

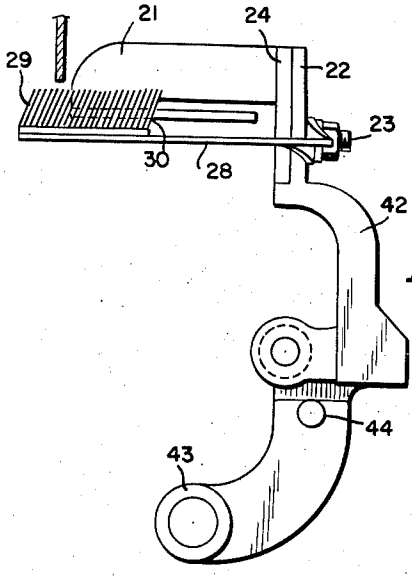

Fig. 3

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Bubber Conroy Baggott, West Columbia, S. C.

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1 Claim. (Cl. 139—260)

This invention relates to the textile industry and more particularly to machinery for weaving fabrics in which the shuttles are automatically replenished and means are provided to prevent the loose ends of thread from being drawn into the fabric.

Heretofore, various type of equipment have been used in connection with weaving to assure a fine quality fabric so that all of the fabric produced may be sold at a premium price. However, difficulty has been experienced in disposing of the loose ends of weft thread which result from the exhaustion of the weft thread on the bobbin of the shuttle. These loose ends frequently are drawn into the fabric by a movement of the shuttle after the shuttle had been refilled with a new bobbin. Although some effort has been made to overcome this problem, and various devices have been used, these devices have not proven satisfactory because the loose ends of the weft thread would not be adequately retained by such devices for a sufficient length of time to prevent such loose ends from being drawn into the fabric.

An object of the present invention is to overcome the defects of the prior art and to provide a device which can be applied to existing looms with a minimum of effort to prevent loose ends of thread from being drawn into the fabric being woven.

A further object is to provide a loom with a means to prevent jerked in threads of filling material in fabric being woven.

Another object of the invention is to provide an attachment for shuttle feelers with means to engage and retain a thread, draw the thread out of the path of the shuttle and maintain such thread out of the way.

A further object is to provide a structure which will engage, retain and withdraw a thread out of the path of a shuttle.

Other objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings wherein:

Fig. 1 is a fragmentary perspective of a portion of a loom showing a shuttle box, a shuttle feeler with the loose end retaining attachment applied thereto;

Fig. 2, an enlarged plan view of a shuttle feeler with the attachment applied thereto and showing a fragment of the body portion of the feeler;

Fig. 3, a fragmentary section taken transversely to the direction of movement of the shuttle showing the relation of the brush of the attachment with respect to the feeler tip and the shuttle;

Fig. 4, a fragmentary perspective of a different shuttle feeler body having a straight shank and showing another form of the loose end retaining attachment applied thereto;

Fig. 5, an alternate form of shuttle feeler supporting bracket for use with the feeler shown in Fig. 3; and

Fig. 6, an enlarged view of the brush of the attachment formed of carding cloth.

Referring more particularly to the drawing, a portion of a breast beam **10** of a loom supports a magazine **11**

having reserve bobbins for filling a shuttle **12** which is shown housed in a shuttle box **13**, such shuttle being thrown by suitable means (not shown) through the shed formed by the warp threads **14** of the fabric **15**, the shuttle carrying the bobbins of weft threads in the usual manner. Upon exhaustion of the weft thread in the bobbin of the shuttle, the shuttle is returned to its box **13** by a throwing device on the other side of the loom. A feeler having a supporting body portion **16** pivotally mounted on a stud **17** fixed to a feeler supporting bracket **18** which in turn is adjustably mounted on the breast beam **10** by means of bolts **19** or the like received in elongated slots **20** on the base portion of the feeler is adjustable for proper cooperation with the shuttle **12**. The feeler body portion **16** has secured to its outer end a feeler tip portion **21** which is secured to an upstanding lug **22** of the feeler body portion by means of a bolt **23** passing through a lug **24** of the feeler tip portion **21** and the lug **22** of the feeler body supporting portion **16**. An L-shaped bracket having a supporting arm **25** with a twist **26** therein has an aperture formed in its end **27** and is secured to the lugs **22** and **24** by means of bolt **23** thereby securely maintaining the L-shaped bracket in position on the feeler. The other arm **28** of the L-shaped bracket has a wire brush **29** affixed thereto, such wire brush being formed of conventional carding cloth with the individual teeth **30** extending upwardly and forwardly of the loom toward the knee **31** of the L-shaped bracket.

The shuttle box **13** is provided with a cut-out **32** which receives the brush **29** and other arm **28** of the L-shaped bracket with the teeth of the brush **29** extending above the lower **32A** surface of the shuttle box to engage a loose end of thread **33** as shown in Fig. 1, the teeth **30** serving as a detent to permit the brush **29** to pass under each loose end of thread **33** and drawing such loose ends of thread **33** with the brush **29** upon the forward or clockwise motion of the feeler body **16** and tip **21** after the shuttle has been refilled with a new bobbin whereby the shuttle feeler and brush are moving out of the path of the shuttle and weaving may continue until the thread on the bobbin is exhausted.

The thread end **33** is held securely by the brush **29** because of the large area of contact, the direction of the teeth and the tendency of the teeth to retain the thread similar to the way a wire hair brush retains loose hair thereon. The portion of the loose end of thread **33** adjacent the fabric **15** is drawn into a thread cutter **34** which severs the loose end and such loose end may be disposed of in any manner.

The shuttle feeler is operated in a well known manner by means similar to that shown in the patent to Draper et al., 2,317,744, and includes a transverse shaft **35** which is responsive to the exhaustion of the filling thread in the shuttle and upon such exhaustion suitable mechanism rocks such shaft in a clockwise direction while an arm **36** fixed on the shaft moves a pivot **37** carrying a forked lever **38** which engages a pin **39** fixed on the body portion **16** of the shuttle feeler. The lever **38** is resiliently held in operative position by means of a spring **40** secured to a fixed part of the machine and to an extension of the lever **38**, such lever **38** having a limited clockwise motion because of engagement with a projecting stop **41**. The spring **40** serves as a safety device to prevent breakage in the event that the shuttle **12** is not in its proper position when the tip portion **21** of the feeler is moved to the position shown in Fig. 1, and if the feeler cannot move to its operative position the bobbin cannot be changed.

Referring to Figure 3, a slightly different shape shuttle feeler body portion **42** is provided with a hollow hub **43** for mounting upon a stud or the like **17** (Fig. 1)

while a pin **44** on the body portion is adapted to cooperate with the forked lever **38**. Another form of feeler supporting bracket is shown in Fig. 5 and includes a body portion **45** provided with elongated openings **46** for cooperation with fastening means similar to bolts **19** (Fig. 1) for attachment to the breast beam **10** of a loom and one leg **47** of the bracket is provided with an aperture **48** for receiving a bolt or stud like **17** about which the feeler body **42** may oscillate with its hub **43** cooperating with such stud.

Referring to Fig. 4, a different form of feeler supporting body **49** is provided with a straight shank **50** which is secured to a cooperating straight shank **51** of the tip portion **52** of the shuttle feeler such shanks being secured together by means of a bolt **53** which also secures upwardly extending lug **54** fixed on one arm **55** of an L-shaped bracket, the other arm **56** of such bracket having a brush **57** formed of card clothing or the like fixed thereto by any suitable means such as bolts, rivets, staples or the like. One form of brush which has been successfully used includes a backing of canvas **58** with wire teeth fixed thereto, such wire teeth extending upwardly and forwardly toward the knee **59** of the L-shaped bracket. The brush **57** has been shown as being formed of card clothing which is a well known item of manufacture in carding wool or other fibers.

It will be apparent that applicant has provided a new and useful attachment for a loom to prevent the loose ends of filling thread from being drawn back into the cloth, thereby avoiding any danger of imperfection in the finished cloth. The invention is useful on all types of natural and synthetic fabrics and the direction of slope

of the teeth has been found to be especially useful since the loose ends of thread may easily pass over the brush in one direction but such loose ends are prevented from passing over in the other direction and, therefore, the improvement meets a long standing need.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore the invention is not limited by that which is illustrated in the drawing and described in the specification, but only as indicated in the accompanying claim.

What is claimed is:

For use with a shuttle feeler having a feeler tip portion and a supporting body portion, an attachment comprising an L-shaped bracket, means to attach one arm of the L-shaped bracket to the connection between the shuttle feeler tip portion and the body portion thereof, uninterrupted carding cloth having wire teeth and mounted on the other arm of said L-shaped bracket with the wire teeth thereof extending upwardly and toward the first arm whereby the attachment will be caused to pass under a thread end and draw such thread end out of the path of the shuttle to prevent such thread end from rendering the cloth defective.

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