Feb. 28, 1939. J. G. BROOKS 2,148,527

THREAD CUTTER FOR LOOMS

Filed Dec. 17, 1937

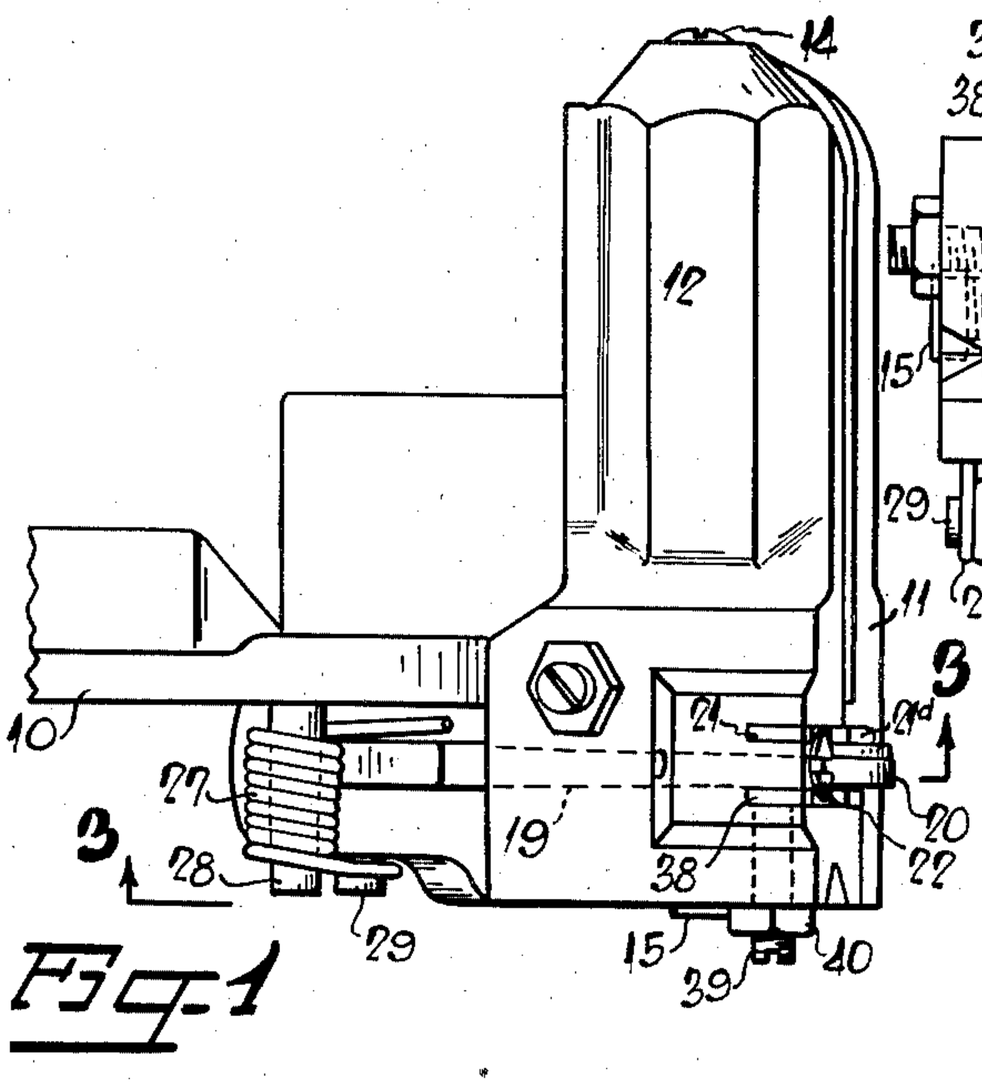

FIG. 1

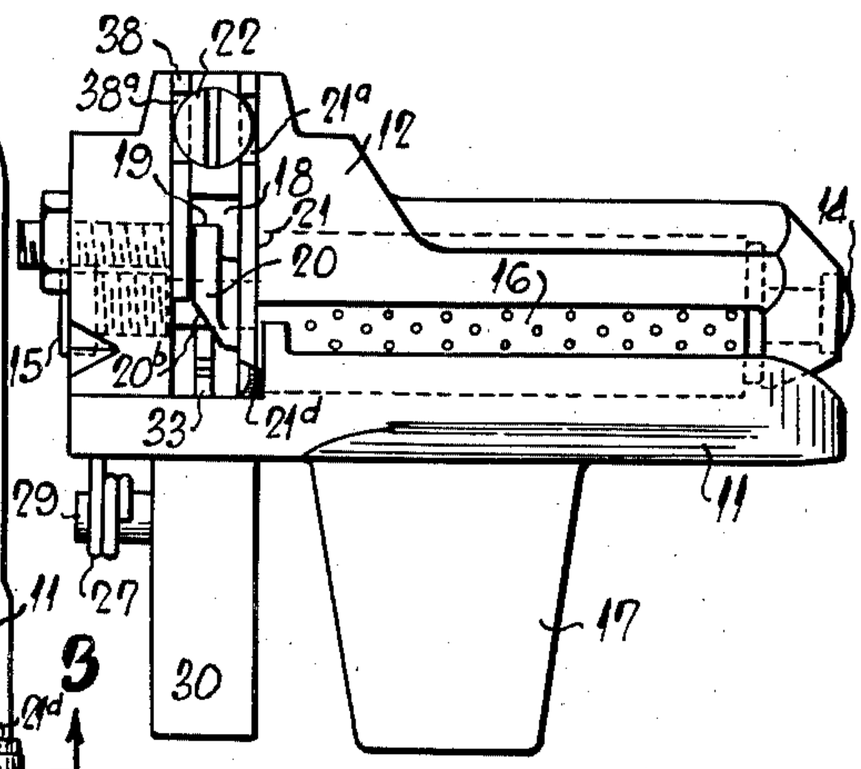

FIG. 2

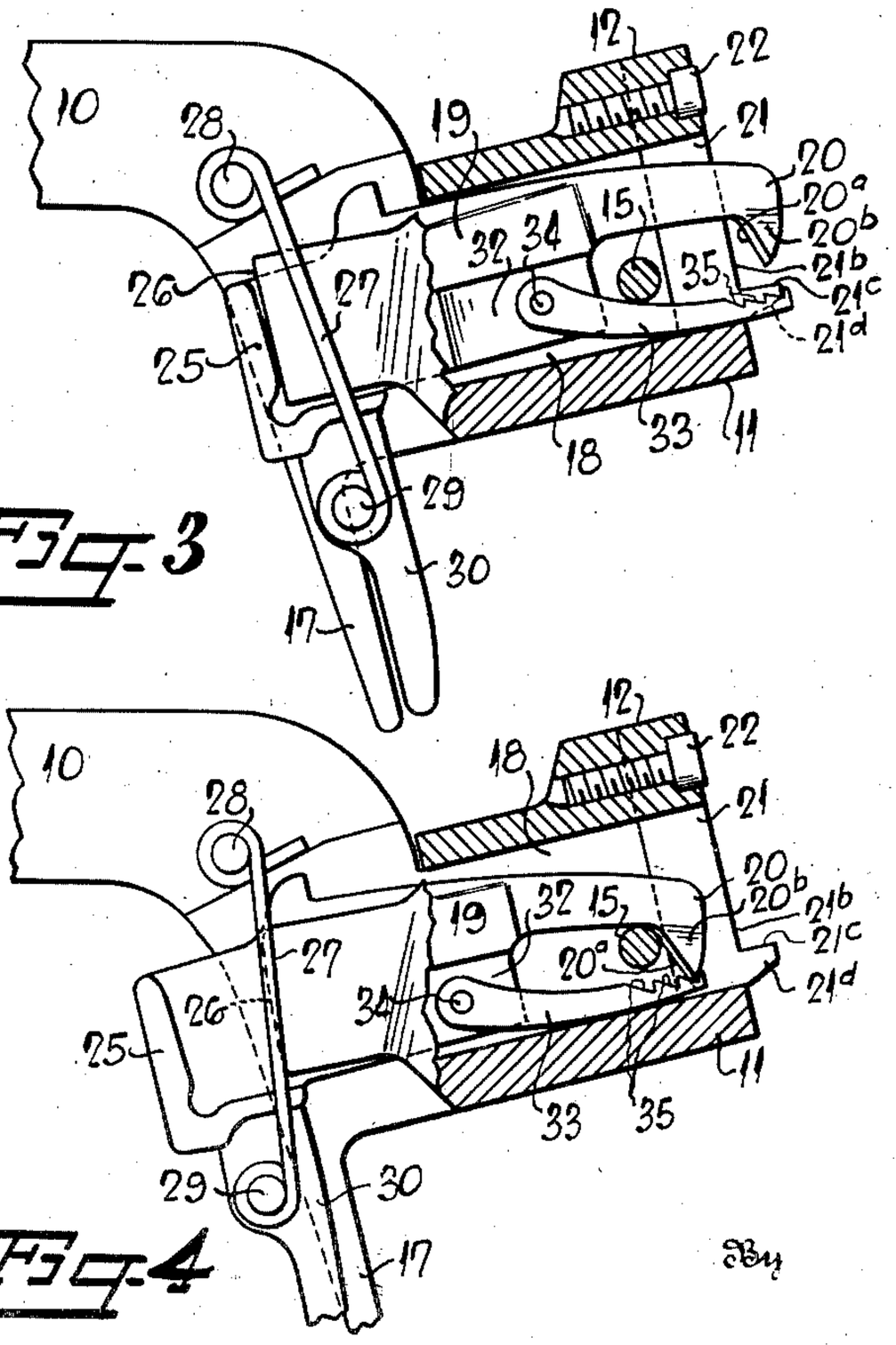

FIG. 3

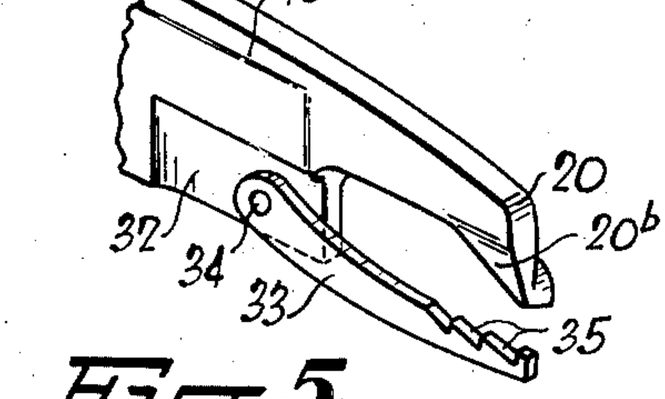

FIG. 5

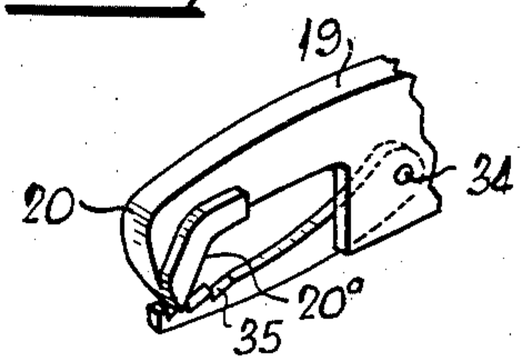

FIG. 6

FIG. 4

Inventor:
JASPER G. BROOKS

By

Attorney

Patented Feb. 28, 1939

2,148,527

UNITED STATES PATENT OFFICE

2,148,527

THREAD CUTTER FOR LOOMS

Jasper G. Brooks, Bemis, Tenn.

Application December 17, 1937, Serial No. 180,397

3 Claims. (Cl. 139—303)

This invention relates to an improvement in a thread cutting temple for looms and more especially to means which assist the thread cutting apparatus to more effectively engage and cut the loose ends near the selvedge of the cloth. It is a well-known fact that when the yarn on a bobbin has exhausted and another bobbin is introduced that loose ends of yarn will be left extending beyond the selvedge of the cloth. It is desirable that these loose ends be sheared as closely to the edge of the cloth as possible so that the finished product will not have loose ends extending therefrom.

In thread cutting temples heretofore provided great difficulty has been experienced in the failure of the cutting means to properly engage the loose ends. For example, the loose end, having very little tension applied thereto will frequently fall below the cutting knives and consequently will not be sheared when the cutting knives are operated.

It is, therefore, an object of this invention to provide a thread cutting attachment for loom temples which is adapted to cut the ends of filling threads left extending beyond the selvedge of the cloth during the weaving of the same, with an additional pivoted serrated arm attached to one of the cutting members for engaging the loose ends and directing them between the jaws of the cutting members.

It is a further object of this invention to provide a thread cutting temple comprising a movable cutting member and a companion stationary cutting member with a serrated member pivoted to the movable cutting member for directing an end of yarn between the cutting members and holding it in place while a severing operation takes place.

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 drawing, in which—

Figure 1 is a plan view of a loom temple head and cover therefor, showing my invention applied thereto;

Figure 2 is an elevation looking at the right-hand side of Figure 1;

Figure 3 is a vertical sectional view taken along the line 3—3 in Figure 1, showing my invention in normal position, that is, when the shearing means is not being actuated;

Figure 4 is a view similar to Figure 3 but showing the position occupied by the movable cutting member and the auxiliary serrated pivoted arm after a strand of yarn has been severed;

Figure 5 is an isometric view of one end of the movable cutting member showing the auxiliary serrated yarn engaging arm pivoted thereto;

Figure 6 is an isometric view looking at the opposite side of the cutting member from that shown in Figure 1 and showing the cutting edge of this member.

Referring more specifically to the drawing the numeral 10 indicates the temple bar having a head portion 11 formed integral therewith, said head portion having a cap or cover 12 therefor. Rotatably mounted in the cover 12, between screws 14 and 15 is a temple roll 16, whose periphery contacts the cloth as it is being woven, and holds it in the proper position. The head 11 is provided with a depending heel 17 which is adapted to be struck by a loom lay upon its beat-up movement to move the temple forward in the usual well-known manner and to effect a shearing operation of any loose filling projecting beyond the selvedge of the cloth.

The head 11 and cover 12 are provided with a suitable groove 18 which forms a guide-way in which the movable thread cutting device 19 is mounted. The thread cutting device 19 has an overhanging down-turned bill 20 integral with one end thereof and this bill is provided with a cutting edge 20*a*, said edge being disposed adjacent one side of shearing plate 21. The shearing plate 21 is mounted in the temple head 12 and held in stationary position by any suitable means such as screw 22. The head of the screw 22 is adapted to rest in slot 21*a* of the stationary cutting plate 21. The plate 21 also has cutting edges 21*b* and 21*c* which cooperate with the cutting edge 20*a* for severing a loose end, the cutting edge 21*c* being on the upper side of an outstanding projection 21*d* which acts as a support for holding the thread in position when the cutting edge 20*a* is moved downwardly and rearwardly to cause a shearing operation to take place.

The movable knife 19 has laterally projecting flanges 25 integral with the back side thereof, which flanges are adapted to normally rest against edge 26 of head 11 when the parts are in a normal position as shown in Figure 3. In order to normally force the movable knife to this position, a suitable torsion spring 27 is provided, the upper end of said torsion spring being mounted around pin 28 projecting from temple bar 10, and the lower end of said spring being mounted around pin 29 in heel portion 30. This heel portion is integral with the rear portion of cutting member 19, and is adapted to be contacted by the loom lay to cause the cutting member to be rotated

slightly in a clockwise manner from the position shown in Figure 3 to the position shown in Figure 4, whenever a filling thread is desired to be severed.

As heretofore stated, some difficulty has been encountered in the failure of the cutting edges **20***a*, **21***b* and **21***c* to properly engage the projecting filling each time the thread on a bobbin has exhausted or a new bobbin has been introduced. Therefore, I have recessed a portion of the cutting member **19** as at **32** and in this recess I have pivoted an arm **33** as at **34**. It will be noted that the lower portion of this serrated arm is rounded and normally rests on the bottom of slot **18**. This member is also provided with a plurality of serrations **35** in the upper portion thereof, which serrations are adapted to receive a projecting filling thread and assist the projections **21***d* of plate **21** in holding said thread in the position for cutting.

It will be noted also that the free end of serrated member **33** is disposed on one side of the down-turned bill **20** and the projection **21***d* is disposed on the other; consequently, when a cutting operation takes place, the lowermost point of the bill **20** can move into a side by side relationship with the free end of serrated arm **33** in the manner shown in Figure 4 to allow the thread which might be in the serrations **35** to be slightly elevated, thereby forcing the thread into the jaws of the shearing mechanism. In order to make it possible however for the free end of the serrated member **33** to move into a side-by-side relationship with the lower end of the bill **20**, it is necessary to bevel the adjacent face **20***b* of this bill in the manner shown in Figures 2 and 5.

It is thus seen that when a strand of filling is drawn across serrations **35** and cutting edge **21***c* that it is in position to be sheared. Then the movable cutting member **19** is moved to the left from the position shown in Figure 3 to the position shown in Figure 4. During this movement the serrations will positively draw through the filling along the cutting member to insure that it will not escape being severed.

By referring to Figures 1 and 2, it will be noted that another plate **38** is provided in the cover **12**. This plate has a notch **38***a* therein, in which the head of screw **22** is adapted to fit so that the plate **38** will be firmly held in position. The lower end of this plate has one face thereof adjacent the left-hand edge of cutting member **19** (Figure 2). It will also be noted that a set screw **39** is threadably secured in the cover **12** with a locknut **40** threadably secured thereon. The right-hand end of set screw **39** (Figure 1) communicates with the slot **18** and is adapted to be normally pressed against the lower end of plate **38** which also projects into this slot. When it is desired to increase the pressure between the cutting edges **20***a* and **21***b*, it is only necessary to manipulate the set screw **29** thereby forcing the lower end of plate **38** against the bill portion **20** of cutting member **19**. This pressure, of course, will cause a corresponding pressure to be exerted between the cutting edge **20***a* on the opposite side of bill **20** and the cutting edge **21***a* of plate **21**.

It is, therefore, seen that I have provided an auxiliary thread engaging means to be attached to a temple thread cutter, said device being pivoted to the movable knife and operable upon the movement of said knife to hold the thread in proper contact with the cutting edges during a severing operation.

In the drawing 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 set forth in the appended claims.

I claim:

1. In a thread cutter for looms comprising a movable cutting member and a companion stationary cutting member, a slide in which the movable cutting member is disposed for sliding movement, a member pivoted to the movable cutting member at one end having the lower edge of its intermediate portion resting on the bottom of the slide, said pivoted member having the upper surface of its free end serrated for engaging the thread and moving it beneath the movable cutting member upon movement of the movable cutting member.

2. In a loom temple having a thread cutter comprising a stationary cutter having a slide associated therewith, a movable cutter operable in said slide upon predetermined occasions with relation to the stationary cutter for severing a thread, said movable cutter having rotary and sliding movement in said slide, a member pivotally mounted at one end to an intermediate portion of the movable cutter and being serrated on the upper edge of its other end and engaging the bottom of said slide upon movement of the movable cutter to move the free serrated end of the said member past the cutting end of the movable cutter to hold the thread in the path of the movable cutter.

3. In a thread cutter for looms, a member having a slot therein, a cutter mounted for sliding and rotary movement in said slot, a member pivoted at one end on an intermediate portion of said cutter and having its free end extending below the cutting edge of the cutter, the free end of said member being dull and serrated on its upper edge at its outer free end and normally resting in the bottom of said slot, and being movable by movement of the cutter and its engagement with the bottom of said slot for moving the free serrated end past the cutting edge of said cutter to thereby hold the thread while it is engaged by said cutter.

JASPER G. BROOKS.