

No. 649,825.

Patented May 15, 1900.

F. W. DUKE.

THREAD CUTTING ATTACHMENT FOR THIMBLES.

(Application filed Oct. 23, 1899.)

(No Model.)

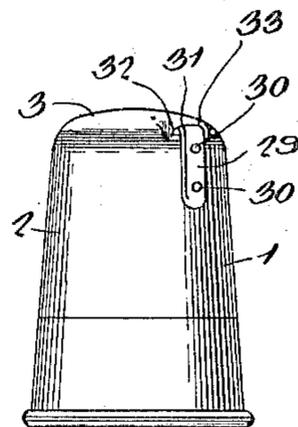
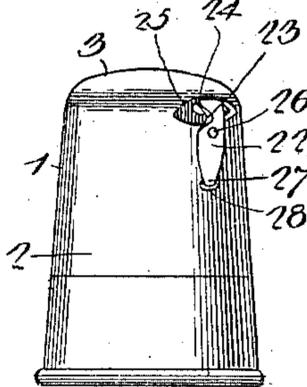
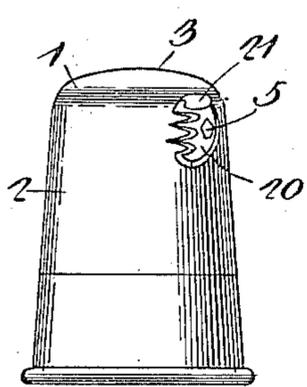
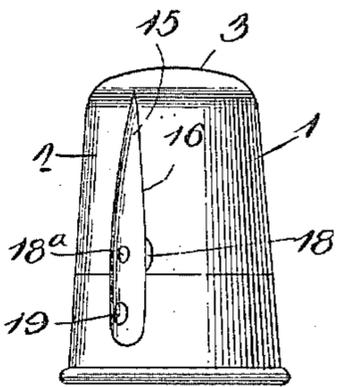
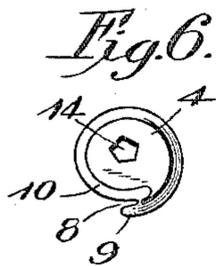
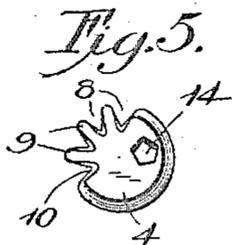
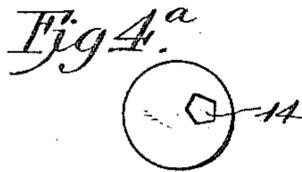
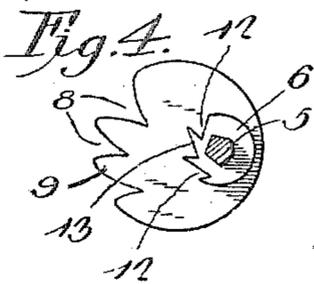
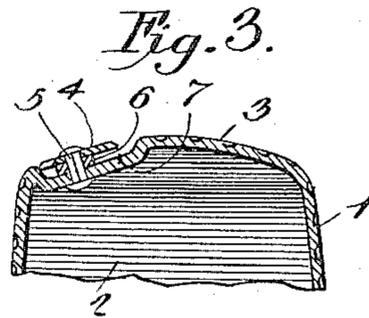
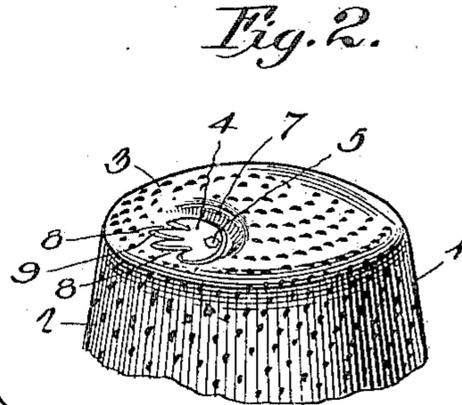
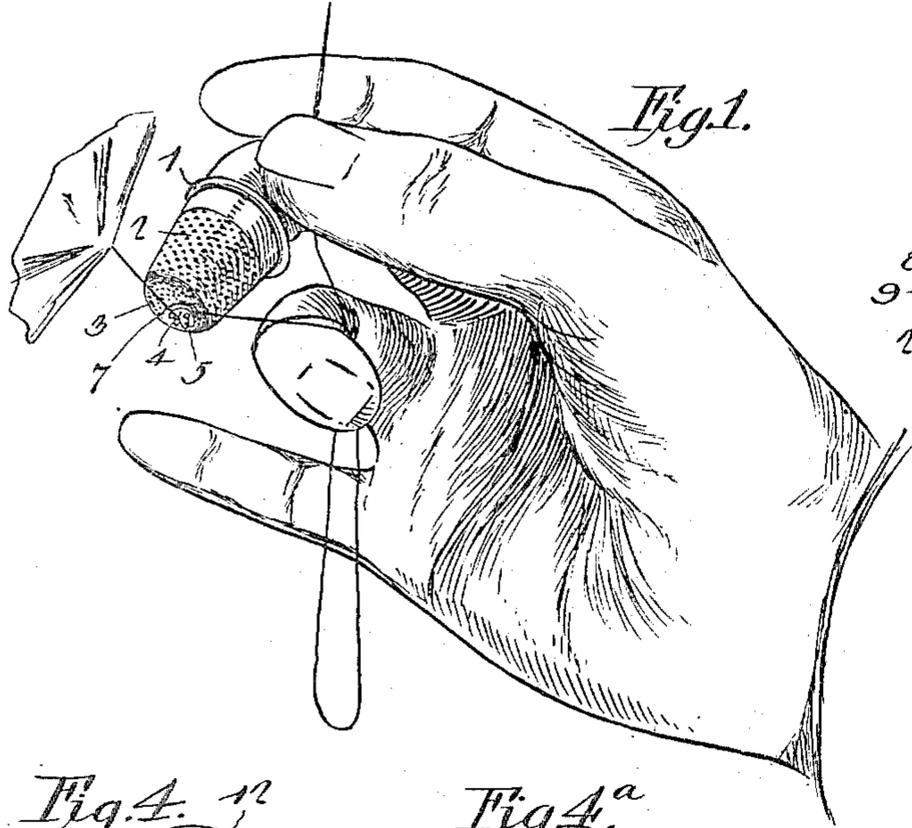


Fig. 9.

Fig. 10.

Fig. 11.

Fig. 12.

Witnesses

Inventor.

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UNITED STATES PATENT OFFICE.

FRED W. DUKE, OF TAMPICO, ILLINOIS.

THREAD-CUTTING ATTACHMENT FOR THIMBLES.

SPECIFICATION forming part of Letters Patent No. 649,825, dated May 15, 1900.

Application filed October 23, 1899. Serial No. 734,554. (No model.)

To all whom it may concern:

Be it known that I, FRED W. DUKE, a citizen of the United States, residing at Tampico, in the county of Whiteside and State of Illinois, have invented a new and useful Thread-Cutting Attachment for Thimbles, of which the following is a specification.

This invention relates to a thread-cutting attachment for thimbles, and has for one of its objects to apply a simple and effective thread-cutting device to thimbles in such manner that the thread may be conveniently severed and without interfering with the usual mode of working with a thimble and without injuring the hand of the operator or user and invariably insure a separation of the thread with a clean shear cut and without complex manipulation or the exercise of strong exertion to obtain the desired result.

Other objects and advantages will appear in the subjoined description, and the novelty will be pointed out in the appended claims, preferred embodiments of the improved device being illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of a hand, showing a thimble applied thereto having thereon one form of the cutting attachment and illustrating the mode of severing the thread thereby. Fig. 2 is a perspective view of the top portion of a thimble, on an enlarged scale, embodying the form of cutting attachment shown by Fig. 1. Fig. 3 is a transverse vertical section through the upper portion of the thimble and improved cutting attachment shown by Fig. 2. Fig. 4 is a horizontal section taken in the plane between the top of the thimble at the point where the cutting attachment is applied and the under side of an interposed washer and looking upwardly. Fig. 4^a is a plan view of a washer of different form and illustrating that the operation of the improved cutting attachment is not dependent on any one particular form of washer. Figs. 5, 6, 7, and 8 are detail plan views of different forms of cutting-disks. Fig. 9 is a side elevation of a thimble, showing a further modification in the form of cutting attachment. Fig. 10 is a side elevation of the thimble, showing a further modified form of cutting attachment. Figs. 11 and 12

are views similar to Figs. 9 and 10, showing further modifications.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a thimble of any preferred form of construction and embodying a frusto-conical body 2, having a slightly-convex top 3. The major portion of the body 2, as well as the top, is provided with indentations or other means of roughening to support the needle against slipping, as will be readily understood, and to one side of the center of the top or apex 3 the cutting attachment 4 is applied near the periphery of the body 2 and disposed at an angle of inclination upwardly toward the center of the said top and secured in place by means of a rivet or pin 5, a washer 6 being inserted between the under side of the attachment and that portion of the top of the thimble over which said attachment is disposed.

To provide means for the proper application of the attachment on the top 3, an indentation 7 is formed and is devoid of the usual indentation or roughened surface to prevent the needle from slipping, and, as shown by Fig. 3, the said indentation 7 is just deep enough to bring the outer face of the attachment 4 in a sloping plane approximately merging with the plane of the greatest upward extent of the center of the said top. When the attachment 4, together with the washer, has been applied in operative position in the indentation 7, the said attachment will also be in a plane parallel with the base portion of said indentation, and, as shown by a majority of the figures, the attachment is in the form of a disk having one or more notches 8, providing one or more teeth 9, between which the thread is caught when the severing operation is carried on.

In Figs. 1, 2, and 3 three notches 8 are formed in the disk, and in Fig. 5 the number of said notches is increased to four, thereby providing an additional number of cutting surfaces or edges. The disks shown by Figs. 1, 2, and 3 have the notches thereof directed to a point beyond the center of the disk, thereby giving a greater extent to each notch within the confines of the disk and making the at-

attachment more effectual in carrying on the cutting operation therewith and also in catching the thread for such purpose. The disk shown by Fig. 5 has the notches therein in radial line and directed toward the center of the disk, thereby illustrating that the principle of the cutting attachment may also be carried out in this manner though not as effective as in the form shown by Figs. 1, 2, and 3. The disk shown by Fig. 4 will be understood to be a larger illustration of those shown by Figs. 1, 2, and 3 and of course embodies the same principle and advantages. The disks shown by Figs. 6 and 7 have single notches to provide a single tangential tooth in each instance, and the disk illustrated by Fig. 8 slightly varies from those shown by Figs. 1, 2, 3, and 4 in that the notches have a direction in a plane past one side of the center of the disk. All the disks that have been particularly referred to have edge bevels 10 to serve as a means for guiding the thread into the notches, and in some instances the teeth might be slightly dipped or bent toward the lower wall of the indentation 7; but for all practical purposes it is preferred that they be straight. Likewise the opposite edges of the teeth are shown straight, or approximately so, and free of any irregularities; but in some constructions it might be desired to corrugate the edges of the teeth or otherwise shape the same, and the present mode of construction of the improved attachment contemplates all of such obvious departures.

In Fig. 4 the preferred form of washer is shown, which has a number of notches 12 cut thereinto to provide teeth 13, having sharp terminals, and the thread is adapted to be drawn against the said terminals of the washer-teeth and braced against the tooth or teeth of the disk above to effect a severance of the thread. At times the washer shown in Fig. 4 may be replaced by that shown in Fig. 4^a, and the cutting operation can then be pursued solely in the notches of the disk supported by the washer. The opening 14 in the disk, washer, and wall of the indentation 7 is of pentagonal form and the rivet-pin 5 rounded. When the said rivet-pin is inserted through the said parts and upset in secured position, the expansion of the metal of the same during such operation will cause it to fill the pentagonal openings in the disk, washer, and wall of the indentation and provide a firm securement, as well as prevent the disk or washer turning or becoming displaced from an initially-adjusted position. Furthermore, the opening for the rivet-pin in all the disks shown, as well as in the washers, is eccentrically arranged, thus projecting the working portion of the disk a greater distance to one side of its means of securement than at the other side, and thus also partially close one portion of the disk and prevent the thread from entering thereat. In addition to this form of closure the side or edge portion

of the disk near the periphery of the frusto-conical body is guarded, and the thread will thereby be more quickly caught in proper position on the attachment in view of the opposite open portion between the washer and disk and the adjacent wall in the thimble-top.

In Fig. 9 the cutting attachment is applied to the body 2 of the thimble, and in this instance consists of a single tooth or quill 15, having a cutting edge 16 and held outward at an angle to the said body by an interposed washer 18, which may be of either of the forms heretofore described, but preferably that shown by Fig. 4^a, and through which it, together with the cutting attachment, as well as the body of the thimble and rivet 18^a, is passed and upset for securing purposes. A second rivet 19 is also employed to hold the tooth in fixed position and extends through the same and the lower portion of the body of the thimble at a point below the washer 18. The reduced end of the tooth 16 stands well up adjacent the top 3, as clearly shown, and is adapted to effectually serve in cutting thread and may be preferred by some to the forms heretofore described. A part of the principle embodied in the forms of the device heretofore set forth is also included in this modified construction, as a washer is interposed between the cutting device and the body of the thimble, so as to make the cutting edge easily accessible.

In Fig. 10 the disk attachment 20 is applied to the body 2 near the top 3 and is substantially of the same form as the device shown by Figs. 1, 2, 3, and 4, but has in addition an outstanding hooked tooth 21, against which the thread may be caught and severed. A washer similar to that designated by 6 in Fig. 4 or that shown by Fig. 4^a will be used with this form of the disk attachment, and the particular arrangement of the knife 21 might be preferred by some operatives in special lines of work.

In Fig. 11 a further modified form of cutting attachment is illustrated and comprises a body 22, having a notch 23, forming a cutting edge, and an upper free hooked end or tooth 24, which stands inward into an opening 25 in the upper portion of the body 2, said opening permitting the thread to be thrown around this form of the attachment and be held by the hook until severed on the cutting edge provided in the notch 23. The entire device is fastened by a rivet 26, and the lower tapered extremity 27 of the body 22 is caught and held in a slot 28, and thereby protected and prevented from forming an obstruction or projection of an injurious nature.

In Fig. 12 a still further modified form of the attachment is illustrated and comprises a vertically-disposed body 29, held in place by rivets 30 and provided with an upward-inturned hooked end 31, with a cutting edge 32 at one side, the said hooked end 31 extending inwardly into a depression 33, which serves

to permit the thread to be caught under the hook and held while drawn against the said cutting edge.

The disk attachment shown by Figs. 1, 2, 3, and 4, as before indicated, embodies the preferred construction, and all the disk modifications are preferable to the devices shown by Figs. 9, 11, and 12. It is more convenient to construct and apply the disk, and it can be more easily beveled and, furthermore, offers the least opportunity for the thread to catch while sewing and presents the most compact surface for the formation of the notches and teeth. It will have been understood, no doubt, from the foregoing disclosure that the notches and intermediate teeth in the disk form of the attachment are provided to prevent the thread from slipping in the use of the cutting-washer, which is the preferred construction, and to obtain proper cutting angles; but it will also be understood that it is intended that the invention contemplates, broadly, the employment of a projecting tooth and a supporting-washer serving to dispose the tooth or teeth and the adjacent notch or notches at convenient operating-angles or in planes affording the most beneficial results.

From practical observation it has been perceived that the hand when properly closed, as in holding a needle, will have the points of its unengaged fingers follow the line of the inside of the thumb and the palm of the hand, producing from the point of the index-finger diagonally across the adjacent portion of the point of the second finger and successively across the point of the third finger a receding line which advances again from the point of the third finger to the similar portion of the little finger. This therefore leaves a protected triangular nook between the point of the second finger and that of the third finger and which is the invariable contour produced by the hand of any one holding a needle in the proper manner and for the purpose of sewing. This nook has been taken advantage of in determining the practicability of the improved attachment, and the knife portion of the thimble will be positioned therein and out of the way of contact. It will not be in the way of using the thimble for smoothing goods, nor will it catch on the outside on the threads or ravelings, as in basting, nor on the thread passing from the needle through the palm of the hand, the knife being underneath and too far to the right, as the hand is turned with the palm partly down for sewing. Furthermore, the position of the attachment also leaves as much of the top of the thimble free from use as can be used.

To illustrate the operation of one form of the device, it will be observed by referring to Fig. 1 that the third finger is passed once around the thread adjacent the outer joint of the same. The thread is then slipped in at the apex or top of the thimble in operative relation to the attachment, and the middle

finger carrying the thimble is pushed away from the third finger holding the thread, or said third finger may be slightly drawn away to exert a pull on the caught thread while the thumb steadies the middle finger. It is intended that the attachment cut the thread close to the fabric being sewed, and, as shown in Fig. 1, the fabric is farther away from the thimble end than it will be in practice to prevent obstructing the view of the cutting attachment, and in the operation of cutting the thread it is unnecessary to discard the needle, which may be held between the first and second finger and thumb.

One mode of using the attachment has been set forth for the purpose of demonstrating its practicability; but it is obviously apparent that different operatives or users will select various methods of arriving at the same result, and it is not necessary to pursue a precise disposition of the thread at all times, and the rapid use of the needle will determine to a material extent the manner in which the thread will be caused to engage the attachment. It will be observed, however, that the attachment is capable of use in numerous arrangements to effectively serve in severing the thread, and the cutting may be carried on at times solely by the cutting edges of the teeth or wholly by the washer having the teeth, and it is intended to use either one or both and employ the principle of having a brace formed by the washer relatively to the disk or tooth or of the washer forming the brace relatively to the tooth against which the thread is brought to bear.

The application of the improved cutting attachment in any of its forms does not materially add to the cost of the thimble, and particularly when compared to the additional usefulness provided by such attachment and the saving of labor and time in cutting thread in a clean manner by a shear cut without the use of scissors or other cumbersome devices.

Changes in the form, proportions, and minor details other than those referred to may be made without in the least departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed as new is—

1. The combination with a thimble, of a cutting attachment having one or more teeth and disposed parallel to the portion of the thimble to which it is applied, the fastening device for the attachment being arranged eccentrically thereto, and means for holding a portion of the attachment clear of the part of the thimble over which it extends.

2. The combination with a thimble, of a cutting attachment secured thereto comprising one or more teeth, and a washer between the attachment and a portion of the thimble to which it is applied to provide a space between the teeth and the thimble.

3. The combination with a thimble, of a cutting attachment having one or more teeth

disposed parallel to the portion of the thimble to which it is applied, and eccentrically-arranged means extending through the attachment for holding the latter in secured position.

4. The combination with a thimble having an indentation, of a cutting attachment provided with one or more notches and adapted to be disposed parallel to the bottom of the indentation, and a washer between the attachment and a portion of the thimble to which it is applied.

5. The combination with a thimble, of a cutting attachment having one or more notches, and a washer between the attachment and a portion of the thimble to which it is applied, the under edge of the intermediate portion of the attachment between the notches or those on opposite sides of the single notch being sharpened to provide cutting edges.

6. The combination with a thimble, of a cutting attachment having one or more notches, and securing means therefor arranged eccentrically thereto.

7. The combination with a thimble, of a cutting attachment having one or more notches and a rivet-pin for securing the same extending therethrough to one side of the center.

8. The combination with a thimble, of a cutting attachment having one or more notches, and an eccentrically-positioned polygonal opening therethrough, and a rivet of rounded

form adapted to be inserted through the said opening and thimble and forced to assume the contour of the opening to prevent the cutting attachment from turning.

9. The combination with a thimble, of a cutting attachment having one or more notches and a polygonal opening therethrough to one side of the center, a washer also having a polygonal opening eccentrically situated therein, and a round securing-rivet adapted to be inserted through the openings in the cutting attachment and washer and a portion of the thimble and made to conform to the polygonal contour of said openings when upset.

10. The combination with a thimble, of a cutting attachment comprising a disk having one or more notches, a notched washer between the disk and thimble, and means for securing said parts.

11. The combination with a thimble, of a cutting attachment comprising a disk having one or more notches therein directed to a point eccentric to the attachment, and means for securing said disk to the thimble.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRED W. DUKE.

Witnesses:

JNO. H. DALEY,
P. A. McMILLAN.