

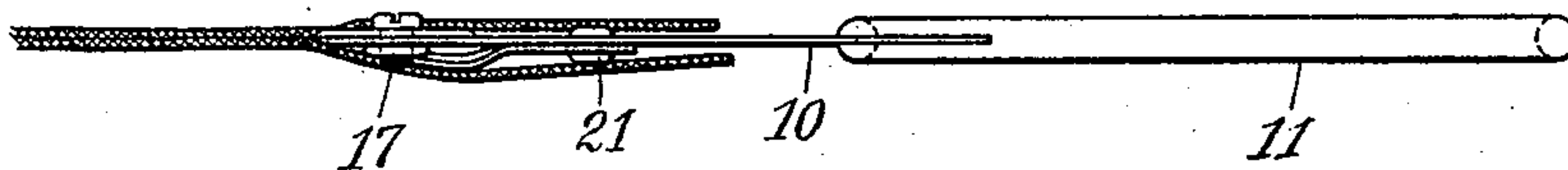
(No Model.)

J. G. SHEPARD.  
SEAM RIPPING DEVICE.

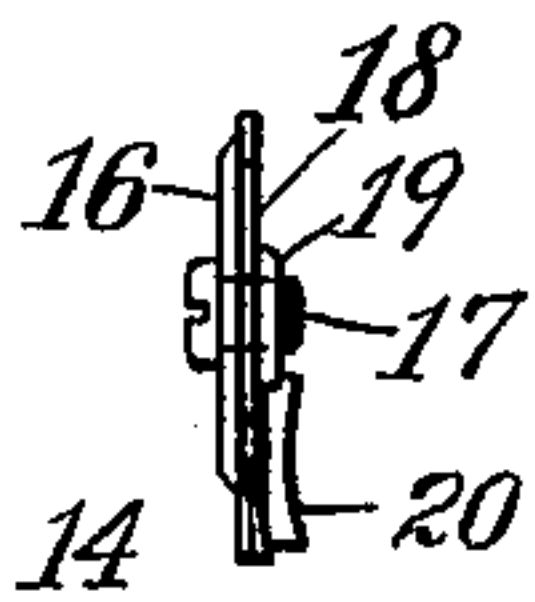
No. 594,660.

Patented Nov. 30, 1897.

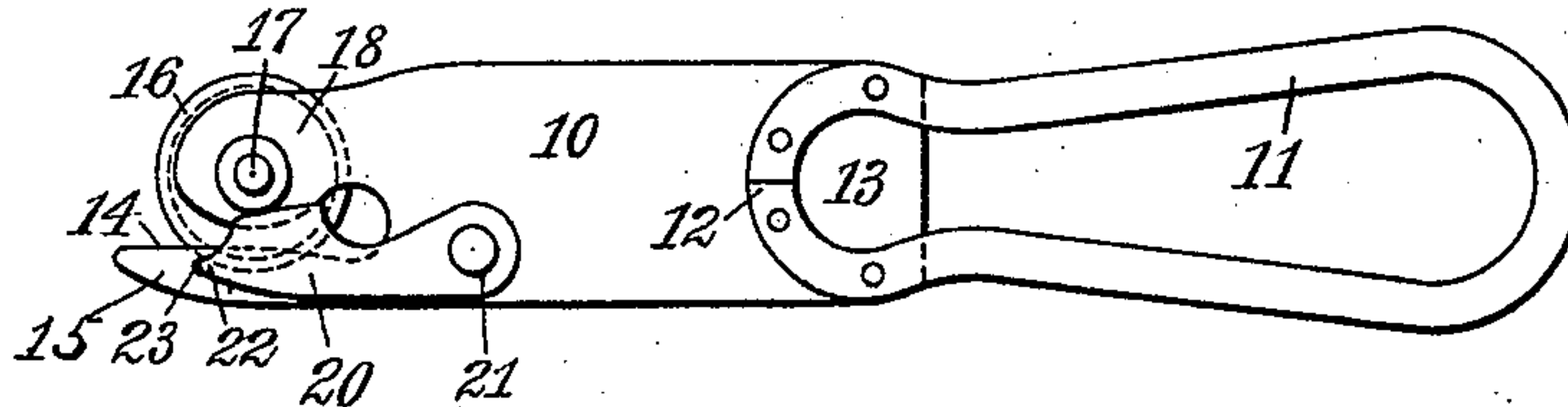
*Fig. 1*



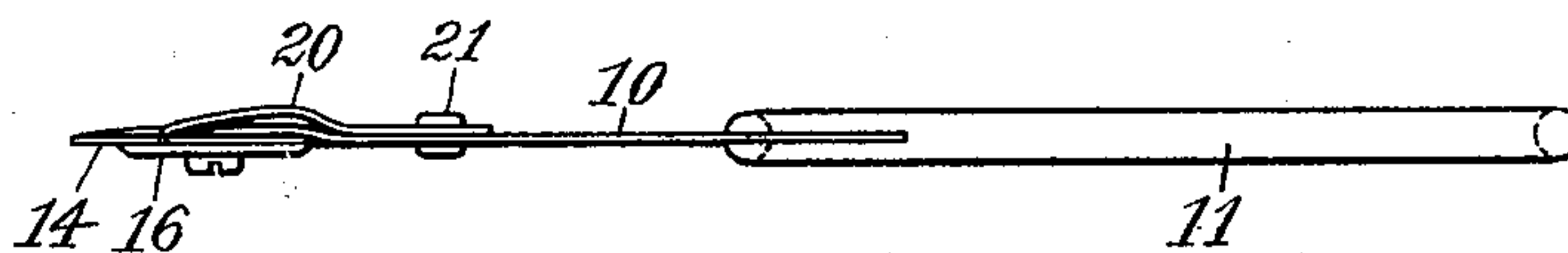
*Fig. 4*



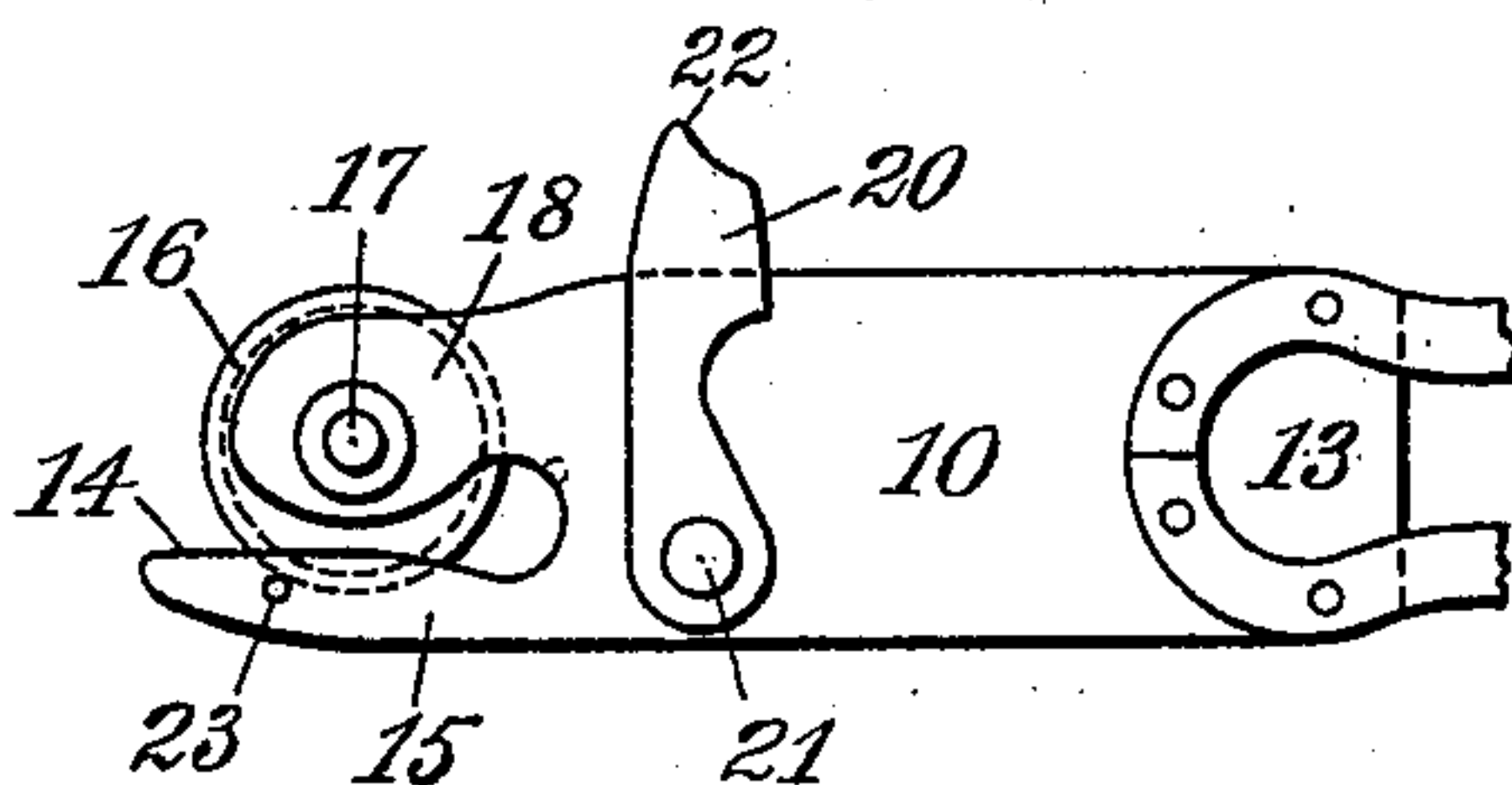
*Fig. 2*



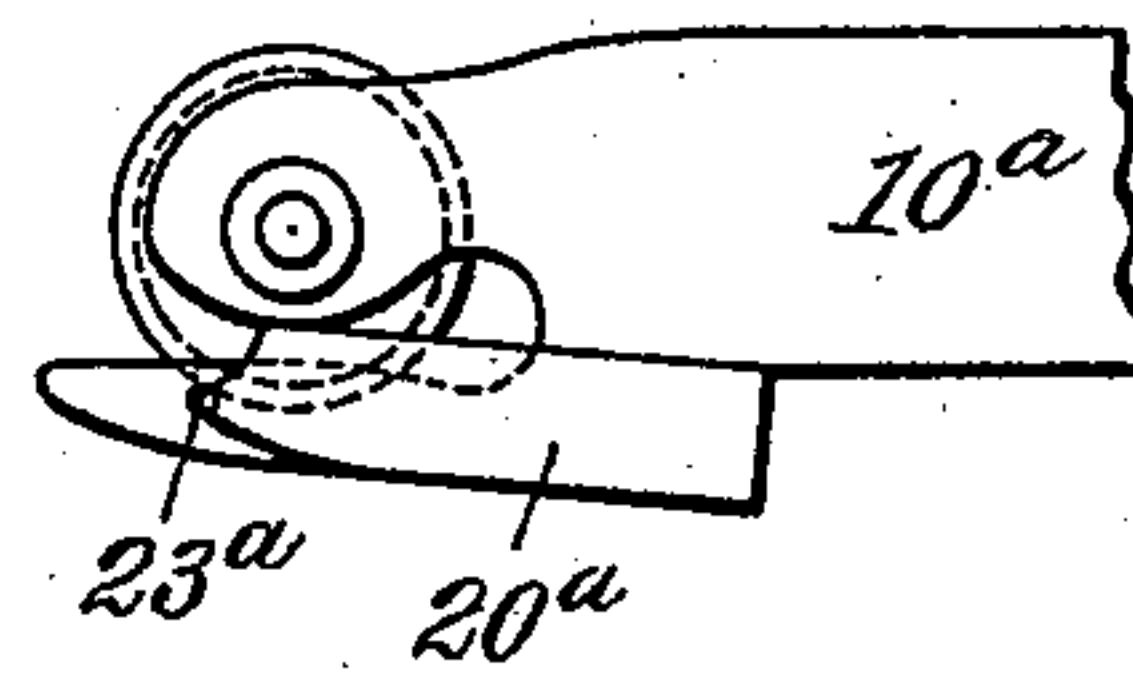
*Fig. 3*



*Fig. 5*



*Fig. 6*



*Fig. 7*



Witnesses:  
H. Mallner  
F. A. Clemons

Inventor  
John G. Shepard  
By his Attorney  
W. B. Honiss.

# UNITED STATES PATENT OFFICE.

JOHN G. SHEPARD, OF WINDSOR, CONNECTICUT.

## SEAM-RIPPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 594,660, dated November 30, 1897.

Application filed May 20, 1897. Serial No. 637,341. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN G. SHEPARD, a citizen of the United States, residing at Windsor, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Seam-Ripping Devices, of which the following is a full, clear, and exact specification.

The object of this invention is primarily to provide simple and efficient means for ripping the seams of sewed fabrics without danger of cutting or tearing the fabrics themselves.

The preferred means comprising my present invention consists of a peculiar shear having one fixed blade and one rotating blade or disk, the rotation of the latter being effected by the resistance of the threads in the seam to be ripped.

A further object of my invention is secured by shaping and arranging the respective parts of my improved shear so as to distend the ripped portion of the fabric and so that any increased resistance offered by the seam shall operate to press more closely together the two cutting members thereof, thereby engaging the resisting threads more closely and firmly and severing them with greater certainty, instead of allowing them to pass between the blades unsevered, and thus clog and interrupt its operation.

Figure 1 of the drawings is an upper edge view, Fig. 2 is a side view, and Fig. 3 a lower edge view, of the preferred form of my improved device. Fig. 4 is an end view thereof projected from Fig. 2. Fig. 5 is a fragmentary side view showing the distending plate swung up out of its operative position to allow of cleaning or sharpening the blades. Fig. 6 is a side view, and Fig. 7 a lower edge view, of a modified form of my present invention in which the distending-plate is formed integrally with the stationary cutting-blade of the device, instead of being a separate piece attached thereto, as shown in the previous figures.

The preferred embodiment of my invention is shown in Figs. 1 to 5, inclusive. A thin blade 10, preferably made of spring or tool steel of a quality suitable for receiving and retaining a keen edge, is provided with a handle 11, which is herein shown to consist

of a piece of wire bent to a suitable form and slotted to receive the blade, which is secured thereto by means of rivets or by soldering. The ends of the wire forming the handle are preferably carried forward and joined at their ends at 12, thus presenting a smooth surface without any projecting corners to catch the threads. These curved ends of the wire handle also form convenient abutments for the finger and thumb of the operator, which will rest naturally in the recesses 13, inclosed by the curved ends as the tool is pushed along the seams.

The forward end of the blade 10 is bifurcated, the lower member 15 serving as a cutting-blade having a sharp edge 14 to coact with the disk cutter 16, which is attached by means of a screw 17 to the member 18 of the bifurcated blade 10. The screw is preferably provided with a tightly-fitting nut 19, which is so adjusted as to allow the disk cutter 16 to rotate freely upon the body portion of the screw. The nut 19 may, however, be dispensed with by employing a shouldered pin riveted in the member 18 in place of the screw 17.

The disk cutter 16 is preferably made from sheet-steel. It should be "dished" slightly and set at a slight angle, so that only its forward or cutting edge bears against the blade 15.

The distending-plate 20 is preferably a separate piece riveted or otherwise pivotally fastened at 21 upon the blade 10. The point 22 of this plate is turned slightly, so as to enter the hole 23 in the blade member 15 when the plate is in its operative position, (shown in Fig. 2,) thus serving to hold the plate in that position against accidental displacement, and also serving to prevent the passing threads from entering between the blade 15 and the plate 20.

In ripping a seam with this device the lower blade 15 is pushed between the plies of cloth beneath the seam to be ripped, the threads of which therefore pass between the edge 14 of the lower blade and the edge of the disk 16, thus causing the latter to rotate, thereby severing the successive threads by the shearing or drawing cut due to its rotation. The separated folds of cloth passing upon the opposite sides of the cutting edges are distended



thereby, so as to pull the two fabrics apart and thus lay bare the threads of the seam to the cutting action of the blades. The strain of this distension reacts upon the outer sides  
5 of the cutting-blades and keeps them pressed together in proper cutting contact. The pressure of the passing cloth upon the outer side of the lower edge of the disk cutter 16 also assists the threads in causing that cutter  
10 to rotate.

The distension of the folds of cloth is increased by the presence of the distending-plate 20, which, as shown in Figs. 1 and 3, projects from the blade 15 at a suitable angle, and the cloth or other fabric as it is  
15 drawn along the projecting side of the distending-plate also tends to press the cutting edges together. As soon as the seam is cut apart to the extent shown in Fig. 1 the separated ends should be seized by the finger and  
20 thumb of the operator, and when thus held it will be seen that any increased resistance of the seam to the cutting action of the blades only serves to distend the cloth more tightly,  
25 which in turn, reacting upon the outer sides of the blades, presses them more closely together, thus meeting the tendency of the increased resistance of the seam to crowd the cutting-blades apart. Thus the distension of  
30 the seam and the tension between the cutting-blades is automatically regulated in accordance with the resistance of the seam that is being cut, a resistance that varies considerably with the differing textures of cloth, the  
35 size and nature of the thread, and the fineness and tension of the stitch employed in sewing the seam.

A loosely-woven or flimsy fabric sewed with considerable tension on the stitch is liable to  
40 be drawn or matted together in a zigzag relation to the plane of cleavage of the blades of my present device, and in ripping such a seam it is necessary to distend the folds considerably, so that as each stitch is cut the  
45 matted or drawn portions between the stitches shall be drawn apart to clear the blades and to lay bare the succeeding stitch.

In the modified form of my invention shown in Figs. 6 and 7 the distending-plate 20<sup>a</sup> is  
50 formed integrally with the blade 10<sup>a</sup>, being bent over, as best shown in the latter figure, so that its leading end will rest properly against the blade, entering the hole 23<sup>a</sup> therein, as previously described. For general use,  
55 however, I prefer the form shown in the preceding figures, which allows of the distending-plate being turned to the position shown in Fig. 5 when it is desired to examine or to sharpen the blades.

60 It is obvious that the distending-plate 20

may be arranged upon the opposite side of the blade 10 and bear against the upper member 18 thereof or against the screw 17, so as to distend the seam and press the rotating cutter 16 more firmly against the lower blade 15  
65 by the operation of the pressure exerted upon the distending-plate by the cloth as the device is pushed along the seam in the manner already described, or a distending-plate may be employed upon each side; but I prefer in  
70 practice to have the distending-plate only upon the side adjacent to the fixed blade, as illustrated in the drawings, making the disk cutter of a suitable thickness to properly distend its fold of the fabric. That thickness  
75 may be increased by making the cutter from thicker metal or by "dishing" it to a greater extent.

I claim as my invention—

1. A seam-ripping device, consisting of a  
80 non-rotatable blade, and of a rotatable sharp-edged disk, with means coöperating therewith to distend the separated folds of the fabric apart from the line of cleavage of the blades so as to successively lay bare the uncut threads  
85 thereof to the action of the blades.

2. In a tool of the class specified, in combination with the blades thereof, a distending-plate projecting from the side of the tool and coöperating therewith to distend the separated  
90 folds of fabric, so as to lay bare the uncut threads thereof to the action of the blades.

3. In a seam-ripping tool of the class specified, in combination with the blades thereof, a distending-plate pivotally mounted upon  
95 the tool and extending forward substantially to the point of contact of the blades, the plate being curved laterally from the plane of the blades so as to distend the separated folds of the fabric, and the forward point of the distending-plate being adapted to enter a perforation or depression in one of the blades, for the purpose specified.

4. A ripping device, consisting of a fixed blade, and of a rotatable sharp-edged disk  
105 cutter, the latter being adjacent to and substantially parallel with the fixed blade, with its sharpened edge engaging therewith to form a shear and a distending-plate bearing against the fixed blade and projecting therefrom  
110 against the fabric, whereby the folds of the latter are distended and the blades are pressed together with a tension governed by the resistance of the seam to the cutting operation, substantially as described.

JOHN G. SHEPARD.

Witnesses:

JENNIE NELLIS,  
W. H. HONISS.