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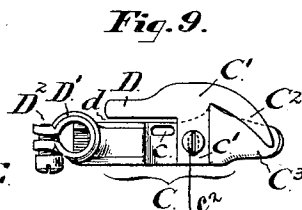
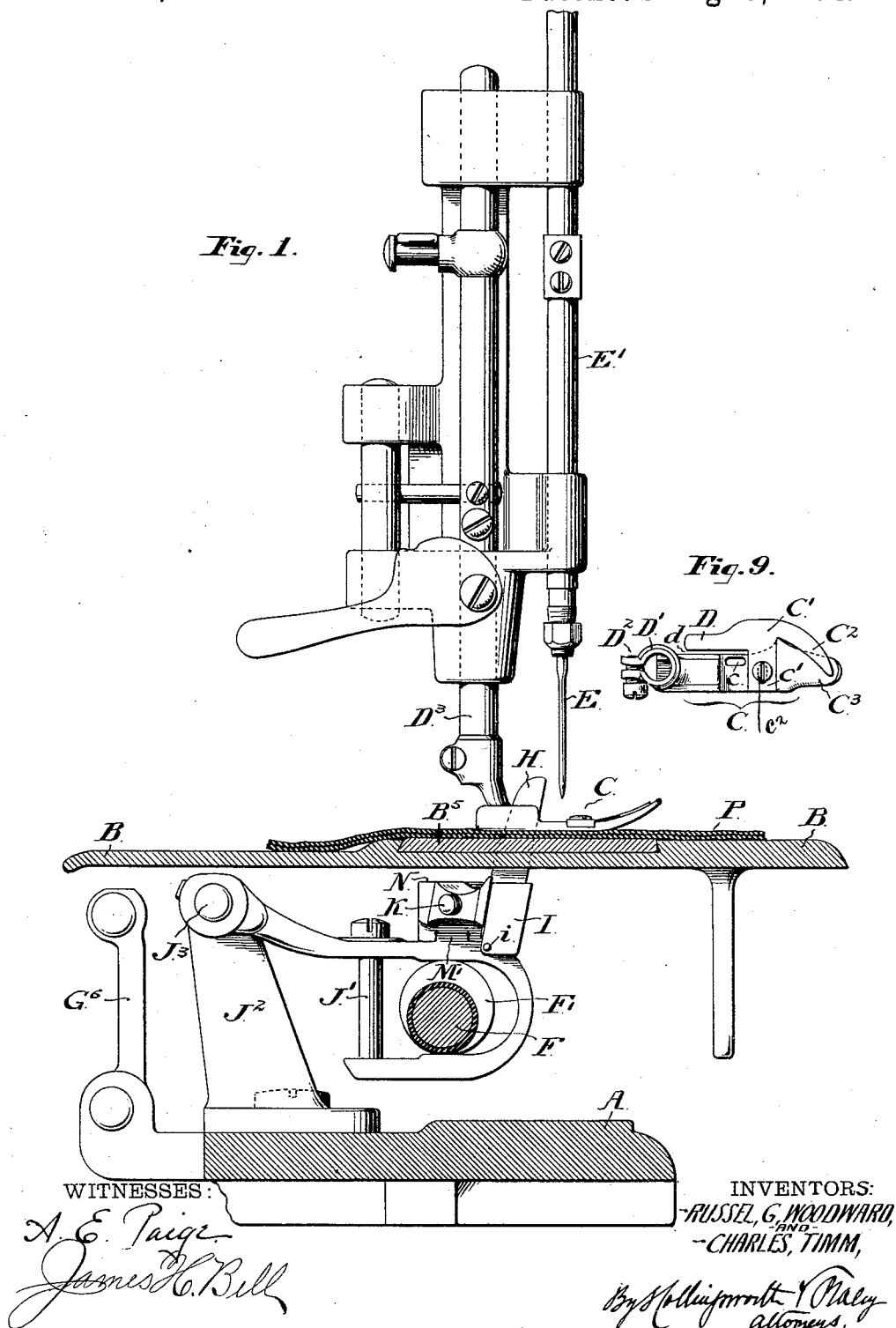
2 Sheets—Sheet 1.

R. G. WOODWARD & C. TIMM.

SEWING MACHINE TRIMMER.

No. 480,377.

Patented Aug. 9, 1892.



WITNESSES:

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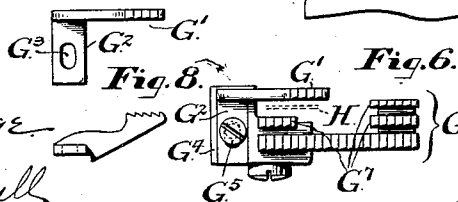
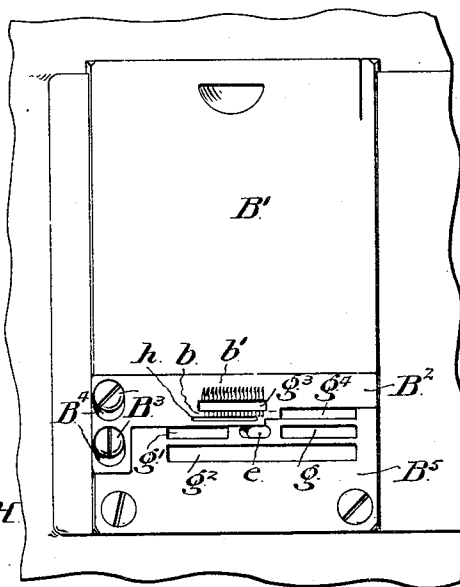
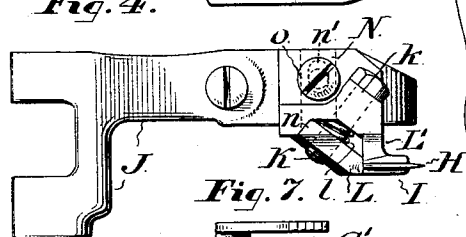
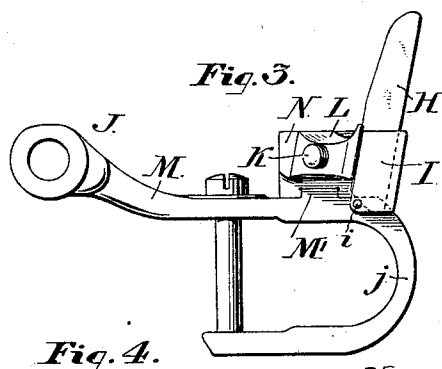
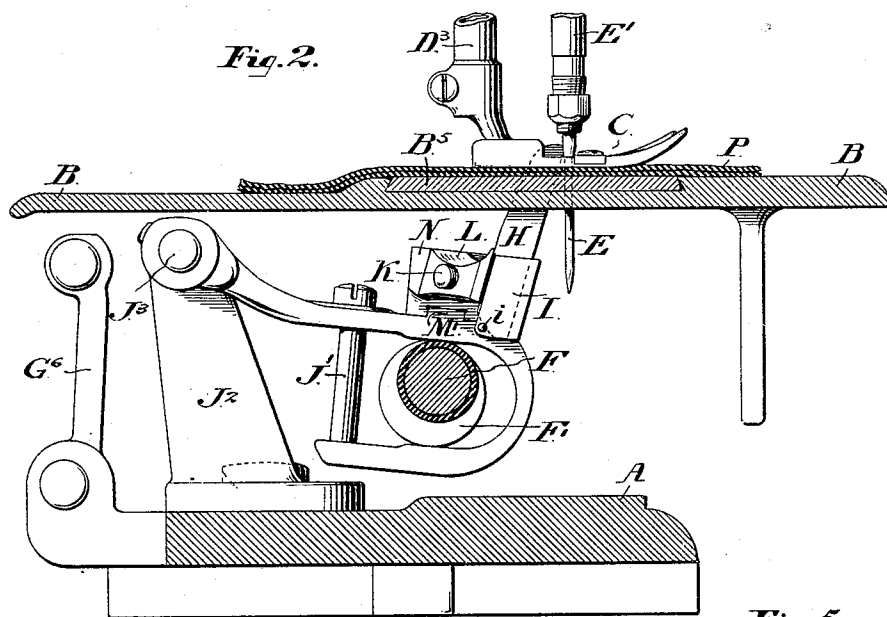
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UNITED STATES PATENT OFFICE.

RUSSEL G. WOODWARD AND CHARLES TIMM, OF CHICAGO, ILLINOIS, ASSIGNORS TO THE UNION SPECIAL SEWING MACHINE COMPANY, OF SAME PLACE.

SEWING-MACHINE TRIMMER.

SPECIFICATION forming part of Letters Patent No. 480,377, dated August 9, 1892.

Application filed August 19, 1890. Serial No. 362,383. (No model.)

To all whom it may concern:

Be it known that we, RUSSEL G. WOODWARD and CHARLES TIMM, of Chicago, in the State of Illinois, have invented certain new and useful Improvements in Sewing-Machine Trimmers, whereof the following is a specification, reference being had to the accompanying drawings.

Our invention relates particularly to the means for supporting, adjusting, and actuating the trimmer-blade and the combination therewith of peculiar adjustable feed devices.

In said drawings, Figure 1 represents a partial vertical section through the work-plate, looking toward the head of the machine and showing the trimmer in one position. Fig. 2 is a partial section on the same plan, showing the trimmer in another position. Fig. 3 is a view in elevation of the trimmer and its supporting devices detached. Fig. 4 is a plan view of the same parts. Fig. 5 is a view of that portion of the work-plate which is adjacent to the feed-slots and needle-hole. Fig. 6 is a top or plan view of the feed-dog. Fig. 7 is a top or plan view of a portion of said feed-dog detached, and Fig. 8 is a view in side elevation of said portion. Fig. 9 is a top view of the presser-foot.

The construction of the well-understood portions of the sewing-machine will not be described, but merely indicated by letters of reference.

Thus, A represents the base-plate; B, the work-plate; C, the presser-foot; E, the needle; E', the needle-bar, and F the main driving-shaft.

The feed-dog as a whole is represented at G, and is supported and actuated by means of a rocking frame, only the rear supporting-arm G⁵ of which is shown, but whose construction can be understood by reference to Letters Patent to Dewees, No. 400,833, dated April 2, 1889.

The arrangement of the trimmer-blade and its actuating devices is as follows: Beneath the work-plate B, upon a vertical standard J², there is pivoted at J³ a frame M, whose bow-shaped front end encircles an eccentric F', mounted upon the main driving-shaft F, the proper adjustment of the eccentric and its trap thus formed being controlled by a screw

J'. Upon the top of this frame and near the front end thereof is a transverse vertical rib M', which fits in a correspondingly-shaped groove in the base of a horizontally-sliding piece N, adjustably secured thereto by means of a screw O, working in a slot n'. This piece N is provided with a lateral arm L', which carries at its outer end a vertically-slotted socket-piece I, the front side of the slot therein being inclined at a very slight angle to the vertical and the rear side being entirely open. The trimmer-blade H fits freely in said slot, being prevented from falling through downward by means of a transverse pin i at the bottom thereof. A nut L, having a beveled face, as shown, bears against the back of the blade H, holding it rigidly in position in the slot, and said nut also engages with a screw K, whose head bears against a beveled shoulder k upon the front face of the piece L', the screw being inclined at an angle of about forty-five degrees to the plane of the blade H. The rear face of the piece L' has a beveled recess n to permit the entry of the rear edge of said nut and hold it against turning. A spring l between the inner face of the nut and the proximate face of the piece L' normally presses the nut away from its seat.

Referring to Fig. 5 it will be seen that the work-plate is provided with the usual longitudinally-sliding plate B', the inner end of which abuts against a second removable strip B², adjustably secured by means of screws B³, fitting in slots B⁴. Said strip contains a slot g³ to receive one of the feed-surfaces, and upon each side of said slot the upper surface of the strip is provided with teeth b b'. A narrow slot h, entirely inclosed within the metal of said strip B², is provided for the trimmer-blade, which rises through said slot, so that notwithstanding the lateral adjustment with relation to the needle there is always a bearing-surface of metal around the trimmer-blade for the cloth. Thus not only is the action of the blade in cutting downward more efficient than where a wide slot is provided to permit lateral adjustment of the blade, but the tendency of the blade to push down fragments of material is obviated. The plate B² abuts in turn against another removable plate B⁵, and its edge is stepped, as

shown, to conform to the adjacent edge of said plate B⁵, which contains the needle-hole *e* and the slots *g g' g²* to receive the remaining portions of the feed-dog. There are thus
 5 five separate feed-slots, one of which *g³*, together with the trimmer-slot *h*, is adjustable toward and from the needle-hole by the adjustability of the plate B². The feed-dog is shown in the plan view of Fig. 6, where it
 10 will be seen that there are five serrated portions of feed-surfaces, four of which G⁷ are in fixed positions, while the fifth G⁷ is laterally adjustable with relation to the others, being mounted upon a horizontally-projecting base-
 15 piece G², which slides in a groove in the rear portion G⁴ of the feed-dog, being adjustably secured thereto by means of a screw G⁵, working in a slot G³. Thus it will be seen that adjustment of the plate B² in correspondence
 20 with the adjustment of the feed-surface G⁷ and knife H permits the trimming of the edge of the fabric at any desired distance from the seam, but that under all conditions of adjustment there is on each side of the
 25 trimmer a feed-surface in operative relation thereto.

The presser-foot C is attached to the presser-bar D³ by means of a clamping-ring D⁷ and screw D², and is provided with the usual needle-hole *c*. Immediately in front of said hole
 30 and behind the upwardly-curved front portion C³ of the foot is a transverse groove, which receives a lateral arm *c'* of the supplemental piece C', said arm being adjustably
 35 secured by means of a screw *c²*, fitting in an elongated slot of the arm. The front end C² of the piece C' is curved upward and inward to overlap the front C³ of the presser-foot, while the rear end D of said piece is flat and
 40 lies parallel to the rear part of the presser-foot, leaving an intermediate slot *d* for the trimmer-blade.

The operation of the device as a whole is obvious. Simultaneously with the stitch-forming
 45 action the trimmer receives an oscillating movement in a vertical plane parallel to the line of feed, and owing to the slight forward inclination of the blade a drawing cut is effected. Not only are the goods held on both
 50 sides of the blade by the presser-foot and the

teeth *b b'*, but the supplemental feed-surface G⁷, co-operating with the piece D of the presser-foot, makes a positive feed at the margin.

We are aware that the use of a laterally-adjustable blade is not new, and that it is
 55 not new to provide a supplemental feed-surface outside of the trimmer-blade and laterally adjustable with relation to the needle. We do not broadly claim either of these devices, save in so far as they constitute elements
 60 of the combinations hereinafter set forth.

Having thus described our invention, we claim—

1. The combination, with the stitch-forming
 65 mechanism, of the slotted work-plate, the oscillating trimmer-frame located below the work-plate, the laterally-adjustable arm carried by said frame, the socket-piece mounted upon said arm, and the trimmer-blade rigidly
 70 but removably secured beneath the work-plate in said socket-piece and projecting at its upper end above the work-plate, substantially as set forth.

2. The combination, with the oscillating trimmer-frame and its laterally-projecting
 75 arm, of the slotted socket-piece having a beveled recess on its rear side, the trimmer-blade fitting freely in said socket-piece, and the screw and beveled nut adapted to enter said recess and to bear against the back of the
 80 blade, substantially as set forth.

3. The combination, with the stitch-forming mechanism, the oscillating trimmer-frame mounted beneath the work-plate, and the trimmer-blade rigidly mounted in said frame
 85 but laterally adjustable with relation to the needle, of a strip mounted in the work-plate and laterally adjustable with relation to the needle, said strip being provided with a trimmer-slot and a feed-slot immediately along-
 90 side thereof, each of said slots being entirely inclosed by the metal of the strip, and a feed-dog having a laterally-adjustable supplemental feed-surface fitting in said feed-slot, substantially as set forth.

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Witnesses:

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