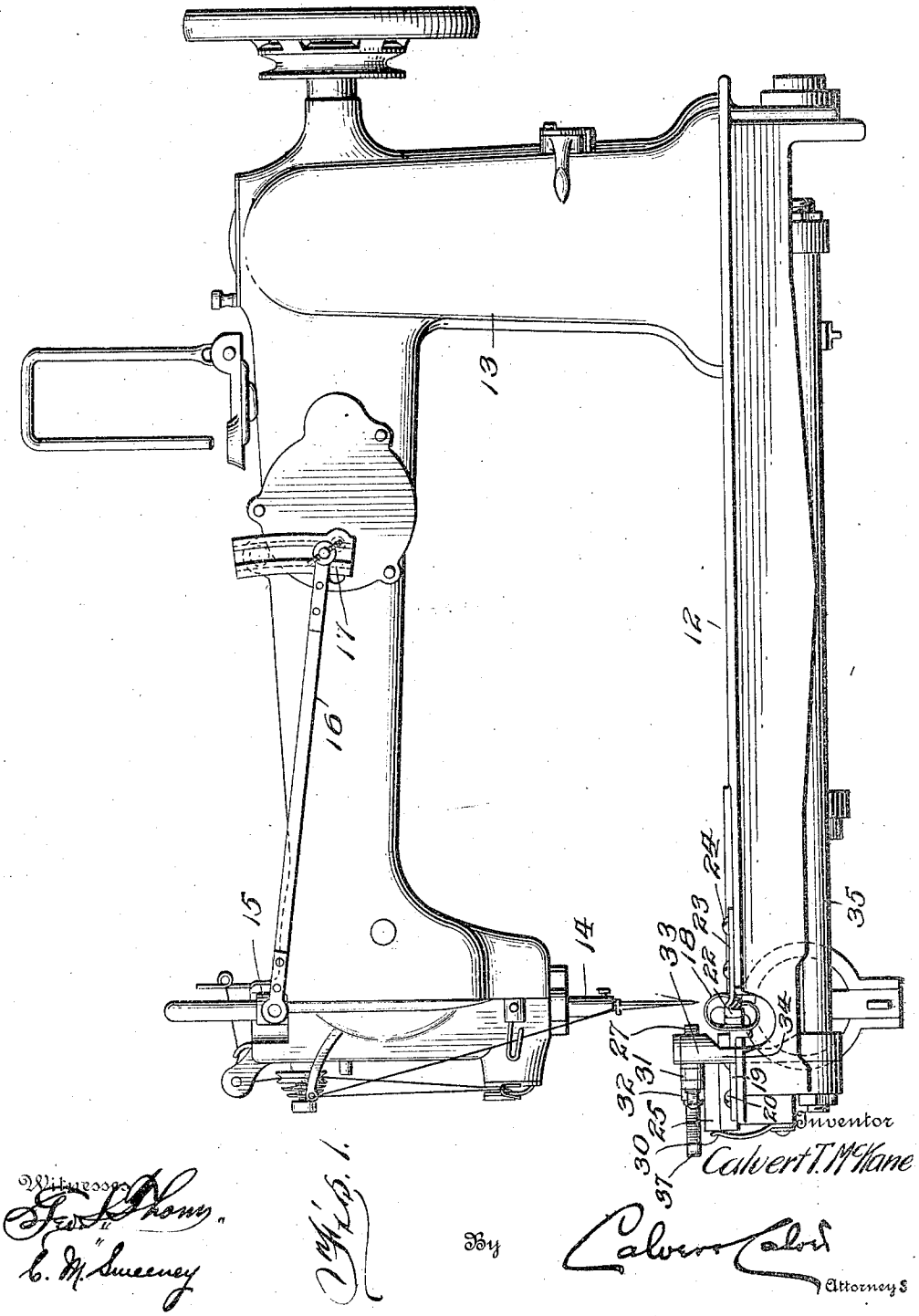
C. T. McKANE.

FOLDING AND GUIDING ATTACHMENT FOR SEWING MACHINES.

APPLICATION FILED APR. 13, 1910.

983,388. Patented Feb. 7, 1911.

2 SHEETS—SHEET 1.



Witnesses:
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Fig. 1.

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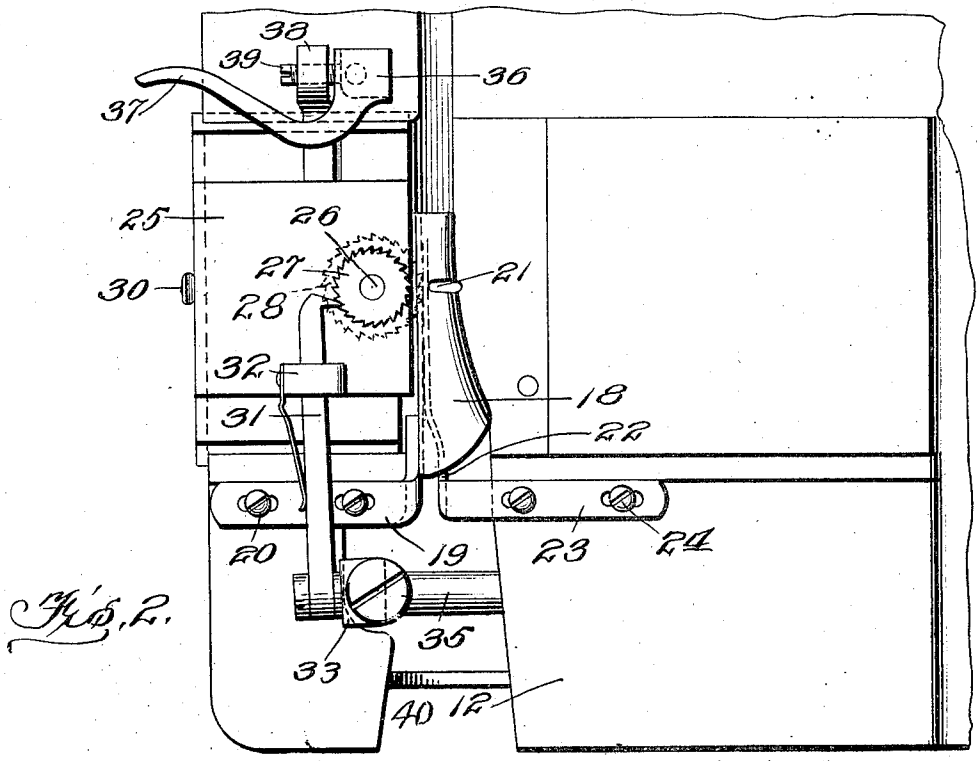


Fig. 2.

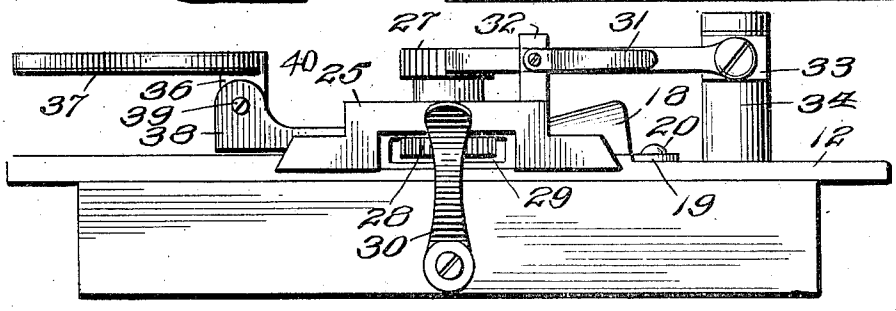
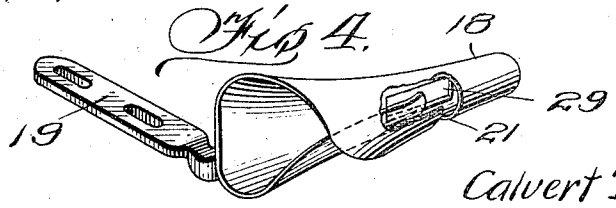


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

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FOLDING AND GUIDING ATTACHMENT FOR SEWING-MACHINES.

983,388. Specification of Letters Patent. Patented Feb. 7, 1911.

Application filed April 13, 1910. Serial No. 555,130.

To all whom it may concern:

Be it known that I, CALVERT T. McKANE, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Folding and Guiding Attachments for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has for its object to provide a folding guide for folding and presenting a strip of fabric to the stitch-forming mechanism of an overseaming sewing machine in such a manner that the strip will be folded into a tubular form and the overlapping edges thereof will be united together by overseaming stitches, so as to form a flat seam on one side of the tubular work produced, the stitches not passing through and through the work, and therefore not showing on the fair side of the work when the tubular product is flattened out.

In the manufacture of men's trousers it is common to provide them at their tops on their outer sides with a series of loops for holding belts. These loops have heretofore usually been made by hand from folded strips of material like that from which the trousers are made; and this invention has for its object to provide a sewing machine by which a tubular product may be formed from a folded strip of fabric and which tubular product may be cut up into proper lengths for use as loops for the purpose just referred to. The present invention adapts the folding and guiding device of my application No. 533,882, filed Dec. 18, 1909, to well-known forms of overseaming sewing machines having vertically and laterally reciprocating needles.

In the accompanying drawings Figure 1 is a side elevation of a sewing machine embodying the present invention. Fig. 2 is a plan view of the forward end of the work-plate of said machine with the present invention applied thereto. Fig. 3 is an end view of the work-plate of the machine, with the present invention applied thereto, looking from the left of Fig. 1. Fig. 4 is a detail view of the folding and guiding scroll.

Referring to the drawings, 12 denotes the work-plate and 13 the arm of a Wheeler & Wilson overseaming sewing machine. In this machine the needle bar 14 reciprocates vertically in a horizontally swinging frame or gate 15 connected by a pitman 16 with a vibrating segment 17, operated from a cam which performs one rotation to two rotations of the driving shaft of the machine and with which driving shaft the needle bar has the usual crank and pitman connection, so that the needle bar will descend alternately in two different planes, as is common with overseaming sewing machines.

Beneath the needle bar, in a suitable opening in the work-plate of the machine, is arranged a folding and guiding scroll 18 which is attached to an arm 19 provided with slots through which pass attaching screws 20 by which the said arm is secured to a portion of the work-plate 12, with provision for a limited adjustment. The scroll 18 is provided beneath the needle-bar with a notch 21 into which the needle can pass in stitching. Extending into the said folding and guiding scroll 18 is an elastic tongue 22 around which the work is folded and which tongue is carried by an arm 23 preferably adjustably secured to the work-plate by means of screws 24.

Slidingly mounted in suitable ways in the work-plate 12 is a block 25 in which is journaled a short vertical shaft 26 provided at its upper end with a ratchet wheel 27, said shaft having at its lower end a serrated feeding wheel 28 having a vertical feeding face which extends within the folding and guiding scroll 18 through an opening 29 formed in the vertical, bac portion of said scroll opposite the notch 21. The sliding block 25 is pressed toward the folding and guiding scroll 18 by means of a spri 30, so that the serrated feeding wheel 28 will be yieldingly forced toward the elastic tongue, and can thus act on the goods passing between said wheel and tongue, so as to feed the work intermittingly forward. The ratchet wheel 27 is engaged by a spring-pressed pawl 31 guided in a bracket 32 attached to the sliding block 25, said pawl being attached to a block 33 pivotally mounted on the upper end of an arm 34 attached to the feed-operating rock-shaft 35 of the machine so that as the said shaft is rocked by the usual feed-operating mechanism of the machine the pawl will be reciprocated back and forth for the purpose of imparting an intermittent rotary movement to the ratchet wheel 27 and to the serrated feed wheel 28 connected therewith.

Vertically pivoted to the work-plate 12 is a cam block 36 provided with a hand lever 37. The sliding block 25 is provided with a projection 38 in which is tapped a screw 39 engaging the cam block 36, so that by turning said hand block by means of its cam lever the sliding block 25 may be retracted or forced away from the folding and guiding scroll 18 when it is desired to remove or insert the work.

In the operation of this machine the strip which is to be stitched into tubular form will be drawn into the folding and guiding scroll 18 and said strip will preferably be of such width that the edges thereof will overlap each other on the right hand side of the elastic tongue, around which the said strip will be folded as it is drawn forward into the said folding and guiding scroll. For the convenient insertion of the work in this manner the bed plate is recessed or cut away in front at 40. When the work has thus been placed in position and the machine is started the strip will be fed forward through the folding and guiding scroll 18 and the overlapping edges of the strip will be overstitched, due to the alternate descent of the needle into and outside (to the right) of said overlapping edges, the work being fed forward as the stitching progresses; thereby forming a tubular product which is stitched together at one side, so that the stitches will not show on the fair side of said tubular product. The elastic tongue 22 stands up edgewise vertically, so that the tubular work formed from the folded strip will be wider vertically than horizontally, and will be "blind-stitched" on the side thereof toward the feeding wheel 28, the needle in its depth-stitch descents passing through the work on the right hand side (Figs. 1 and 2) of the said elastic tongue.

The elastic tongue 22 receives the pressure of the feeding wheel 28 induced by the spring 30, and this pressure may be regulated by adjustment of the screw 39 which thus serves as an adjustable stop acting against the cam block 36, to vary the working position of the sliding block 25 and the feeding wheel supported thereby. The said elastic tongue 22 consists preferably of a thin flat body arranged edgewise vertically, as above stated, and the feeding wheel or device has a vertical feeding face arranged opposite a portion of said tongue and pressed toward the latter by the spring 30.

Having thus described my invention I claim and desire to secure by Letters Patent:

1. The combination in a sewing machine provided with an overseaming stitch-forming mechanism comprising a vertically reciprocating and laterally movable needle, of a folding and guiding scroll provided at one side with an opening, an elastic tongue extending into said scroll and around which the strip to be stitched may be folded, a feeding device arranged opposite a portion of said elastic tongue and adapted to engage the work through said opening in said scroll, and means for yieldingly pressing said feeding device toward said elastic tongue.

2. The combination in a sewing machine provided with an overseaming stitch-forming mechanism comprising a vertically reciprocating and laterally movable needle, of a folding and guiding scroll arranged beneath said needle and provided at one side with an opening, an elastic tongue extending into said scroll and around which the strip to be stitched may be folded, a block slidingly mounted on the work-plate of the machine, a feeding wheel mounted in said block and arranged opposite a portion of said elastic tongue and adapted to engage the work through said opening in said scroll, means for intermittingly rotating said feeding wheel, and means for yieldingly forcing said block and the feeding wheel carried thereby toward said elastic tongue.

3. The combination in a sewing machine provided with an overseaming stitch-forming mechanism comprising a vertically reciprocating and laterally movable needle, of a folding and guiding scroll arranged beneath said needle and provided at one side with an opening, an elastic tongue extending into said scroll and around which the strip to be stitched may be folded, a block slidingly mounted on the work-plate of the machine, a feeding wheel mounted in said block and arranged opposite a portion of said elastic tongue and adapted to engage the work through said opening in said scroll, means for intermittingly rotating said feeding wheel, means for yieldingly forcing said block and the feeding wheel carried thereby toward said elastic tongue, and a cam device for forcing said block and feeding wheel away from said scroll.

4. The combination in a sewing machine provided with an overseaming stitch-forming mechanism comprising a vertically reciprocating and laterally movable needle, of a folding and guiding scroll arranged beneath said needle and provided at one side with an opening, an elastic tongue extending into said scroll and around which the strip to be stitched may be folded, a block slidingly mounted on the work-plate of the machine, a feeding wheel mounted in said block and arranged opposite a portion of said elastic tongue and adapted to engage the work through said opening in said scroll, a shaft by which said wheel is carried, a ratchet wheel on said shaft, a spring-pressed pawl engaging said ratchet wheel, a feed rock-shaft having an arm carrying

said pawl, and means for yieldingly forcing said block and the feeding wheel carried thereby toward said elastic tongue.

5. The combination in a sewing machine provided with an overseaming stitch-forming mechanism comprising a vertically reciprocating and laterally movable needle-bar, of a folding and guiding scroll, a flat elastic tongue arranged edgewise vertically in said scroll and around which tongue the strip to be stitched may be folded, and a feeding device arranged opposite a portion of said elastic tongue and having a vertical feeding face coöperating with said tongue.

6. The combination in a sewing machine provided with an overseaming stitch-forming mechanism comprising a vertically reciprocating and laterally movable needle-bar, of a folding and guiding scroll, a flat elastic tongue arranged edgewise vertically in said scroll and around which tongue the strip to be stitched may be folded, a feeding device arranged opposite a portion of said elastic tongue and having a vertical feeding face coöperating with said tongue, a sliding spring-pressed block supporting said feeding device, and an adjustable stop to regulate the working position of said block and of the feeding device supported thereby.

In testimony whereof I affix my signature, in presence of two witnesses.

CALVERT T. McKANE.

Witnesses:
EARL R. LEYDA,
A. R. LEYDA.