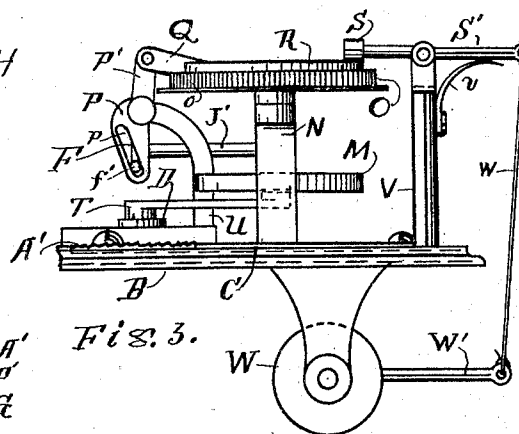
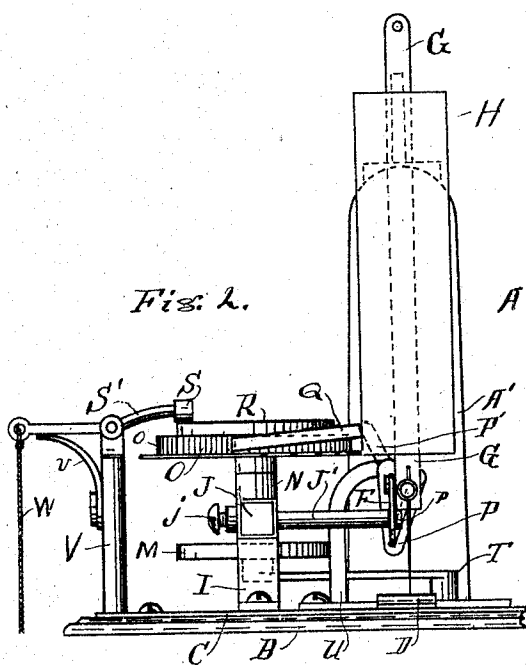
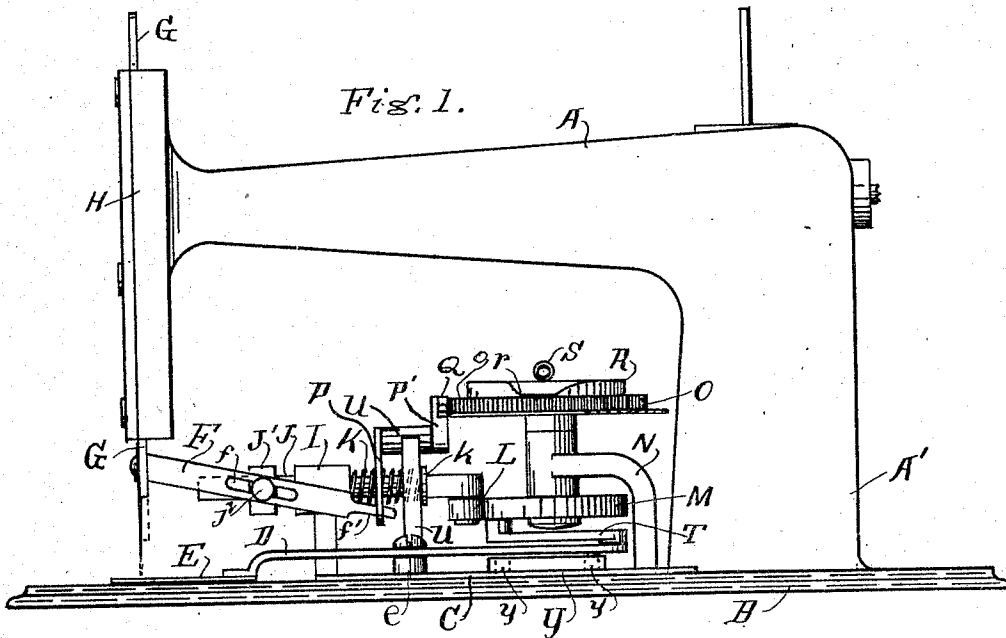


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SEWING MACHINE.  
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2 SHEETS—SHEET 1.



Witnesses

L. C. Ware  
T. G. Friend

By

Inventors  
Morris G. Rosenthal  
Arthur Rosenthal

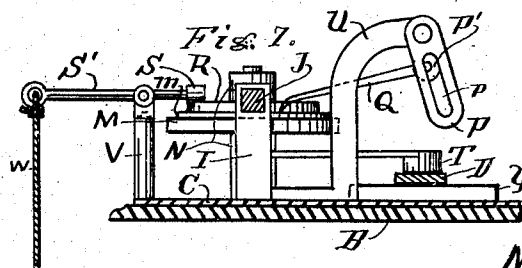
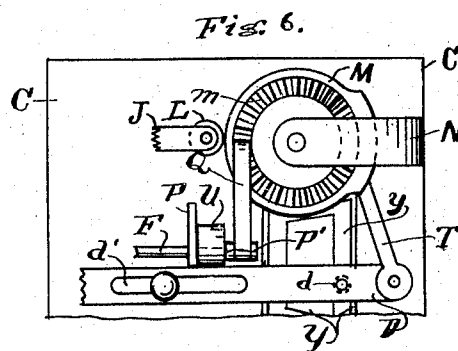
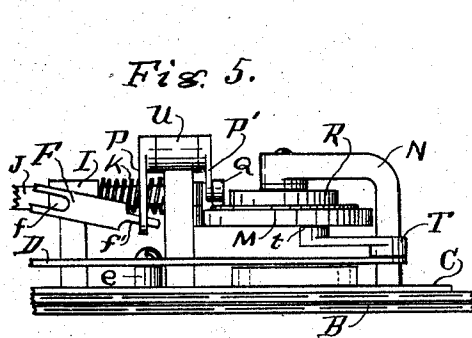
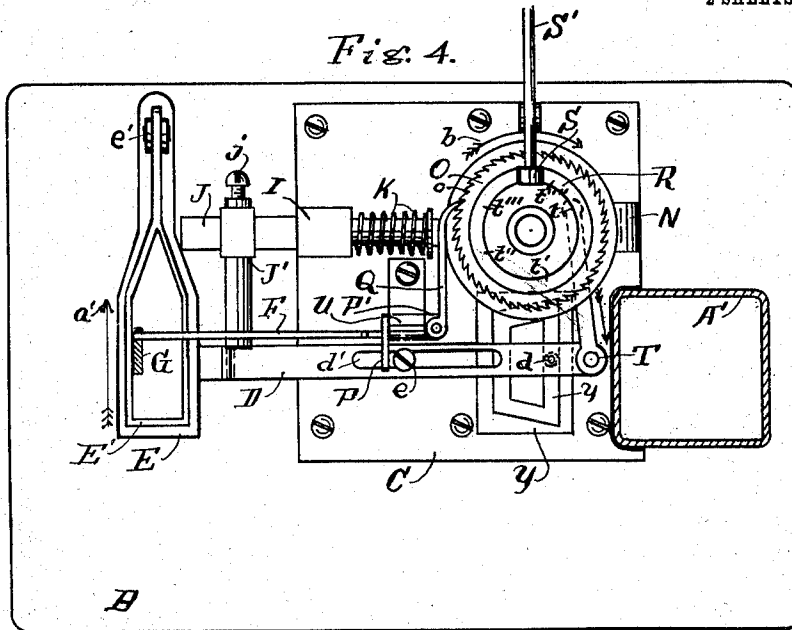
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2 SHEETS—SHEET 2.



Witnesses

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# UNITED STATES PATENT OFFICE.

MORRIS G. ROSENTHAL AND ARTHUR ROSENTHAL, OF GRAND RAPIDS, MICHIGAN.

## SEWING-MACHINE.

948,345.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed April 8, 1908. Serial No. 425,970.

*To all whom it may concern:*

Be it known that we, MORRIS G. ROSENTHAL and ARTHUR ROSENTHAL, citizens of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a specification.

Our invention relates to improvements in attachments to sewing machines for use in sewing labels, &c., upon garments, and its objects are: First, to provide an attachment of the nature stated that may be readily attached to any power sewing machine or, in fact, to any sewing machine. Second, to provide an attachment of the nature named that will stop the sewing machine automatically when the label has been fully sewed on the garment, and, third, to provide an attachment of the nature named that may be adjusted to sew on labels of various forms. We attain these objects by the mechanism illustrated in the accompanying drawing in which—

Figure 1 is an elevation of a sewing machine head with our attachment in place. Fig. 2 is an elevation of the same looking to the right. Fig. 3 is the same looking to the left on Fig. 1. Fig. 4 is a plan of the same. Fig. 5 is a side elevation, Fig. 6 is a plan and Fig. 7 is an end elevation of our attachment adapted for the use of a single actuating wheel in lieu of two wheels as shown in Figs. 1, 2 and 3, with Fig. 7 shown partly in section.

Similar letters refer to similar parts throughout the several views.

In the construction of this attachment we have provided a plate C that is designed to be screwed solidly to the bed B of any sewing machine. Upon this bed we attach a standard N provided with a head so arranged that a ratchet wheel O may be revolvably secured above the head and a cam wheel M may be revolvably secured below the head upon a shaft that passes through the head so that any motion that is given to the ratchet wheel O will be given to the cam wheel M. The ratchet wheel O is made to revolve by means of the pawl Q which is pivotally supported upon the arm P'. A shaft passing through, and supported in the bearing U, which shaft is actuated as fol-

lows: A second arm, P is secured to the end of the shaft that carries the arm P', but on the opposite side of the bearing U, and is provided with an inclined slot *p* so arranged that the vertical movement of the lever F, with its small end *f*' arranged to move freely in the slot *p* will cause the shaft carrying the arms P and P' to oscillate so that the pawl Q will act upon the teeth *o* to cause the wheels O and M to revolve a short distance each time the pawl Q acts upon the teeth *o*. The lever F is actuated as follows: It is provided with a short slot *f* near its longitudinal center where it is fulcrumed upon the bolt *j*' which is passed through the slot *f* and screwed into the end of the arm J', and the end of the lever opposite the arm P is pivotally secured to the lower end of the needle bar G so that each up stroke of the needle bar will cause the opposite end of the lever to move downward when the small end *f*', acting in the slot *p* will cause the lower end of the arm P to move laterally to the right and thus throw the pawl Q to the left and, as its free end engages the teeth *o* it will move the wheel O accordingly, and each downward stroke of the needle bar will move the other end of the lever F upward and throw the arm P to the left, thus drawing the pawl back to position to again engage the teeth *o*, &c., continuing this action to give intermittent motion to the wheel P as long as the needle bar is moving vertically.

To carry out the prime object of our invention, we form a work holder E and pivot an inner templet E' thereto, as at *e*', so arranged that material placed between the two may be pressed between them and held firmly to place. This work holder is secured to a lever D that projects back over the plate C, to which it is pivoted, as at *e*, so that it will swing freely, and it is provided with a slot *d*' that will allow it to slide longitudinally upon its support *e* as it is manipulated as hereinafter described.

Back of the pivotal bearing *e* is located a templet Y that has a slot *y* formed into its upper surface, of a proper form to cause the work holder E to move properly to sew on any desired form of label. In this case we have shown the slot *y* in the templet Y of a proper form to sew on an oblong label, and

it is operated as follows: The back or right hand end of the arm D is pivotally connected to the connecting rod T, the opposite end of which is pivotally secured to the under surface of the wheel M as at *t*, so that when the wheel M revolves in the direction of the arrow *b*, in Fig. 4, the pin *d* will be made to travel in the right hand, relatively vertical, portion of the pattern groove *y*, in the direction of the arrow *a*, and the work holder E will move in the direction of the arrow *a'*, as shown in Fig. 4, until the pin *d* reaches the relatively lower right hand corner of the groove when the wheel M will have carried the end *t* of the connecting rod T to the point *t'* where the angle of the rod will be sufficient so that its movement to the point *t''* will be sufficient to draw the pin *d* into the relatively lower horizontal portion of the groove and carry it to the left hand end thereof, whence the movement from *t''* to *t'''* will draw the pin *d* along in the left hand vertical portion of the groove to the upper end thereof, where the angle of the connecting rod T will be sufficient to force the pin *d* around the corner into the upper relatively horizontal portion of the pattern groove and in position, at *t''''* to be again forced into the right hand vertical portion of the groove, which course is repeated with every revolution of the wheel M, moving the work holder E, through the medium of the arm D. As it is necessary to move the work holder E laterally as well as longitudinally, we provide the arm D with a longitudinal slot *d'* arranged to slide freely on the pin *e* so that it may be made to readily adjust itself to carry the work holder E always in the proper direction and position to sew the edges of the label as desired, the several templets being made to conform to the form of the label to be sewed onto a garment.

It is evident that as the arm D moves longitudinally the relative lateral movement of its two ends must vary so that there would be considerable variation in the length of the stitches, especially upon the two sides of a label of the form indicated by the work holder E, here shown, and to overcome this difficulty we have made the wheel M of a proper peripheral form to move the fulcrum or supporting arm J' to correspond with the longitudinal movement of the arm D, thus: with the arm J' thrown as far to the left as possible the fulcrum point of the lever F will be near the needle bar G and the end *f'* of the lever F will be much farther from the fulcrum point than it would be if the fulcrum point were carried as far to the right as possible, and thus would move the arm P farther, accordingly, so that more teeth *o* on the wheel O would be passed over by the pawl Q on its backward movement and would carry the wheel O farther, and

vice versa, thus regulating the length of the stitch throughout the entire operation. The arm or fulcrum J' is secured to the shaft J by means of a set screw *j* which may be so set as to give the desired length of stitch. Thus: if a long stitch is desired the arm J' is set to the left; if a short stitch is desired the arm is set to the right, &c. The shaft J is supported in a bearing I in which it may slide freely lengthwise, and is provided with a spring, as K, designed to press against the bearings I and *k* to force the antifriction roller L against the face of the wheel M, the periphery of which, as hereinbefore stated, is of a proper shape to move the shaft longitudinally as may be required to regulate the stitch as the arm D moves longitudinally or otherwise in the process of sewing on the labels.

It is necessary that some means be provided for automatically stopping the machine when the sewing on of a label is completed, as otherwise the machine would continue to sew for a distance after having passed the last corner of the label, thus entailing a considerable waste of time and material and making the label unsightly, and cutting the material with the double stitching. We provide for automatically stopping the machine by placing a rim R upon the upper surface of the wheel O, with a part cut away, as at *r*, and pivoting a lever S' upon a standard V, one end of said lever being provided with an antifriction roller *s* designed to travel freely over the edge of the rim R to apply power to the machine and to drop into the notch *r* to stop the machine, which is done as follows: The end of the lever opposite the roller S is connected with the arm W' of the motor W, in such a manner that when the roller S is traveling on the rim R the motor is free to drive the machine, but when the roller S drops into the notch *r* in the rim the spring *v* forces the outer end of the lever up and the connecting cord *w* will raise the arm W' and stop the motor and machine.

In Figs. 5, 6 and 7 we have shown a means whereby we can dispense with the ratchet wheel O entirely and perform the entire work of both wheels with the wheel M by simply reversing the direction of the arm P' to project downward instead of upward, and forming the ratchet teeth *m* on the upper surface of the wheel M, and, also, placing the rim R upon this wheel, and changing the direction of the slot *p* in the arm P so as to insure the movement of the wheel M by the pawl Q with the up stroke of the needle bar G to properly time the movement of the goods to the movement of the needle. In all other respects the action of the attachment is exactly the same as has been hereinbefore described.

It will be readily seen that by this form

of construction the entire attachment may be placed within the space bounded by the arm A, the standard A' and the head H, of any machine, thus making any machine on the market available for this class of work and averting the necessity, expense and room necessary to provide a machine arranged expressly for this work, and available for no other line of general sewing.

10 What we claim as new, and desire to secure by Letters Patent of the United States, is:

1. In a sewing machine attachment of the class described, a supporting plate that may be readily attached to, or removed from a sewing machine, a ratchet wheel having a peripheral cam portion, a pawl for actuating said ratchet wheel, a shaft, an arm connected with one end of said shaft and having a slot therein that inclines from the perpendicular when the arm is in normal position, an arm on the other end of said shaft for carrying the pawl, a lever pivotally secured at one end to the needle bar of a sewing machine and with the other end adapted to engage the slot in the actuating arm on the shaft that carries the pawl, and provided with a slot near the longitudinal center, a movable arm engaging said slot to support the lever in working position, an actuating spring arranged to hold the movable arm in contact with the periphery of the ratchet wheel, a stationary templet secured to the supporting plate and having grooves of the form desired, a lever pivotally secured to the supporting plate and having a slot by means of which it may be supported to move longitudinally, a pin on one end of this lever arranged to engage the groove in the templet, a movable work holder secured to, and actuated by said lever, and a connecting rod attached at one end to one end of said lever, and at the other end to the ratchet wheel to actuate said lever as the ratchet wheel revolves.

2. In combination with a sewing machine and a motor, a ratchet wheel, a stationary templet having a form groove therein, a lever pivoted to the machine with one end engaging the form groove and connected to, and actuated by the ratchet wheel as it revolves, a movable work holder attached to the other end of the lever and actuated thereby, a pawl arranged to actuate the ratchet wheel, a lever connected at one end with the needle bar of the sewing machine and having a slot through which it is pivotally supported, and the free end connected to actuate the pawl from the needle bar, a movable arm supporting said lever, a cam engaging the end of the arm, and a spring to hold the end of the arm firmly against the periphery of the cam, a rim upon the ratchet wheel having a detent therein, and a lever pivotally supported so that one end

travels over the rim and the other end is connected with the starting lever of a motor and arranged to disconnect the motor and stop the motor and machine at the proper time.

3. In combination with the needle bar, the arm and the bed of a sewing machine, a supporting plate, a ratchet wheel and cam supported on said plate, a longitudinally adjustable arm, a pawl for actuating the ratchet wheel, an arm connected with said pawl and having a longitudinal slot that inclines from the perpendicular when the arm is in its normal position, a lever pivotally attached at one end to the needle bar and slotted at the center, a pivotal bolt attached to the adjustable arm and engaging the slot in said lever, and the other end of said lever engaging the slot in the pawl arm, a spring to hold the adjustable arm against the cam, a crank connected with the cam, a pivotal bolt on said plate, a lever centrally pivoted to the plate and having a slot to slide over the pivotal bolt for longitudinal adjustment, a rod connecting one end of said lever with the crank, a stationary templet secured to the plate and having a guiding groove in it, a pin on the lever arranged to travel in said groove as the crank revolves, and a movable work holder secured to the outer end of the lever.

4. In combination with a sewing machine head, needle bar and motor, a movable work holder, a stationary templet having a pattern groove therein, an arm pivoted to the machine, a ratchet wheel, a pawl for actuating said ratchet wheel, a cam, a spring and a connecting rod for actuating the work holder, a rim projecting upward from the ratchet wheel and having a detent therein, a lever pivotally supported to be actuated by the rim and its detent, a motor, a motor lever, a connecting rod connecting the motor lever and the rim actuated lever to automatically stop the motor when the detent in the rim passes under the end of the lever and allows it to drop.

5. In combination with a sewing machine and motor, a ratchet wheel having a rim projecting upward therefrom and provided with a detent, a pawl for actuating the ratchet wheel, a longitudinally movable lever centrally pivoted to the machine, a stationary templet having a form slot therein under the end of said lever and fitted to guide said lever in the desired directions, a movable work holder secured to the other end of the lever, and a lever pivoted to the machine with one end traveling upon the rim of the ratchet wheel as said wheel revolves, and the other end connected with the motor and arranged to stop the motor when the end of the lever enters the detent in the rim.

6. In combination with a sewing machine

head, needle bar and motor, a supporting plate, a templet secured thereto, an arm engaging said templet, centrally pivoted to the plate and carrying a movable work holder,  
5 a ratchet wheel connected to actuate said arm, a pawl for actuating said ratchet wheel, an arm and a lever for actuating the pawl from the needle bar, an upwardly projecting rim on the ratchet wheel having a detent in  
10 its upper surface, a lever pivotally secured in position for one end to be connected with the motor and the other end to travel on the rim as the ratchet wheel revolves and to

stop the motor when the end of the lever enters the detent in the rim.

15

Signed at Mentor Ohio March 30 1908.

M. G. ROSENTHAL.

In presence of—

F. J. REXFORD,

FRED LONGTIN.

Signed at Streator Illinois March 28 1908.

ARTHUR ROSENTHAL.

In presence of—

FRANK LEMON,

FRANK A. DOLD.