

MACHINE FOR SEWING THE HEADS OF MANTLES.

Patented Nov. 7, 1911.

3 SHEETS—SHEET 1.

The image contains three technical drawings of a mechanical device, labeled Fig. 1, Fig. 2, and Fig. 3.

Fig. 1. This is a side view of a complex mechanical assembly. It features a vertical frame with a horizontal beam. A rotating component, possibly a wheel or a drum, is mounted on the beam. Various parts are labeled with letters: 'a' for the base, 'b' for a vertical support, 'c' for a horizontal support, 'd' for a central shaft, 'e' for a horizontal support, 'f' for a vertical support, 'g' for a horizontal support, 'h' for a vertical support, 'i' for a horizontal support, 'j' for a vertical support, 'k' for a horizontal support, 'l' for a vertical support, 'm' for a horizontal support, 'n' for a vertical support, 'o' for a horizontal support, 'p' for a vertical support, 'q' for a horizontal support, 'r' for a vertical support, 's' for a horizontal support, 't' for a vertical support, 'u' for a horizontal support, 'v' for a vertical support, 'w' for a horizontal support, 'x' for a vertical support, and 'y' for a horizontal support.

Fig. 2. This is a detail view of a component, likely a part of the assembly shown in Fig. 1. It shows a central shaft with two side arms. The central shaft is labeled 'o', and the side arms are labeled 'm' and 'n'. The component is shown in a cross-sectional view, with various internal features labeled with letters: 'a' for the base, 'b' for a vertical support, 'c' for a horizontal support, 'd' for a central shaft, 'e' for a horizontal support, 'f' for a vertical support, 'g' for a horizontal support, 'h' for a vertical support, 'i' for a horizontal support, 'j' for a vertical support, 'k' for a horizontal support, 'l' for a vertical support, 'm' for a horizontal support, 'n' for a vertical support, 'o' for a horizontal support, 'p' for a vertical support, 'q' for a horizontal support, 'r' for a vertical support, 's' for a horizontal support, 't' for a vertical support, 'u' for a horizontal support, 'v' for a vertical support, 'w' for a horizontal support, 'x' for a vertical support, and 'y' for a horizontal support.

Fig. 3. This is a detail view of a component, similar to Fig. 2 but with different internal features. It shows a central shaft with two side arms. The central shaft is labeled 'o', and the side arms are labeled 'm' and 'n'. The component is shown in a cross-sectional view, with various internal features labeled with letters: 'a' for the base, 'b' for a vertical support, 'c' for a horizontal support, 'd' for a central shaft, 'e' for a horizontal support, 'f' for a vertical support, 'g' for a horizontal support, 'h' for a vertical support, 'i' for a horizontal support, 'j' for a vertical support, 'k' for a horizontal support, 'l' for a vertical support, 'm' for a horizontal support, 'n' for a vertical support, 'o' for a horizontal support, 'p' for a vertical support, 'q' for a horizontal support, 'r' for a vertical support, 's' for a horizontal support, 't' for a vertical support, 'u' for a horizontal support, 'v' for a vertical support, 'w' for a horizontal support, 'x' for a vertical support, and 'y' for a horizontal support.

Witnesses
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MACHINE FOR SEWING THE HEADS OF MANTLES.
APPLICATION FILED SEPT. 11, 1906.

1,008,011.

Patented Nov. 7, 1911.

3 SHEETS-SHEET 2.

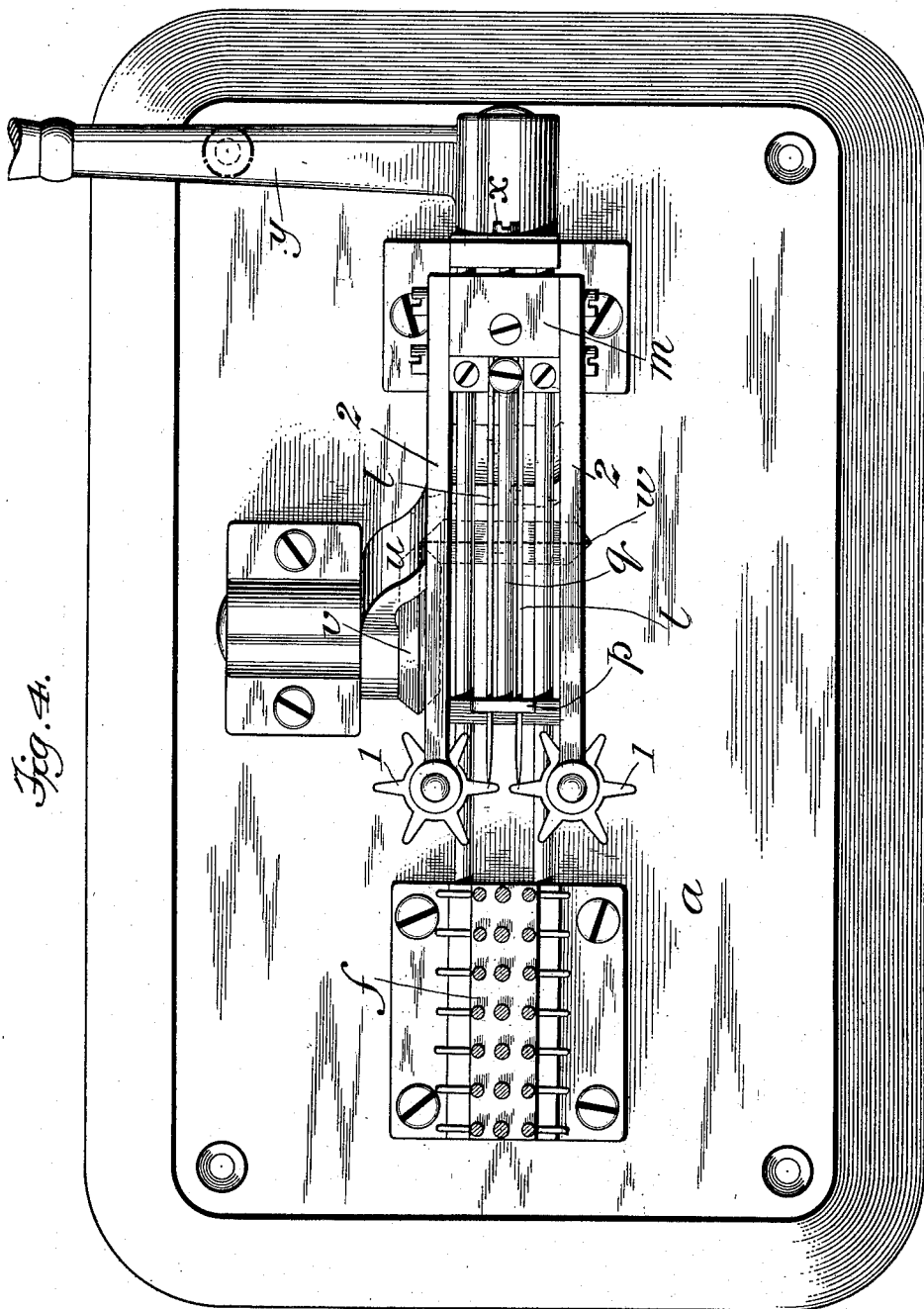
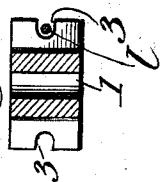


Fig. 4.

Fig. 4a.



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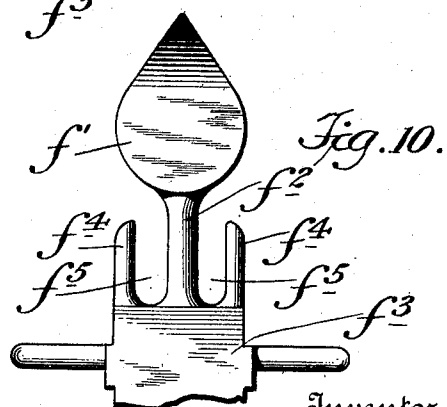
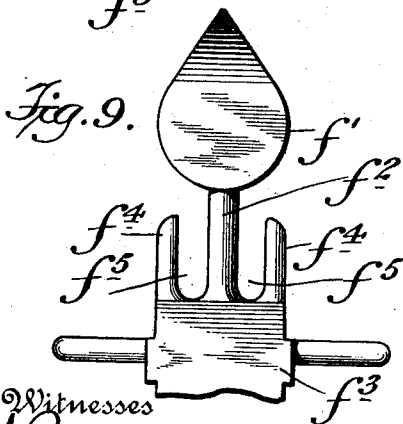
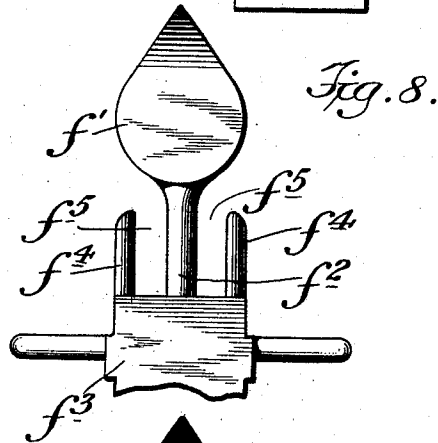
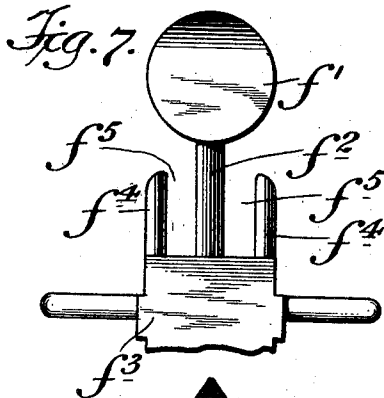
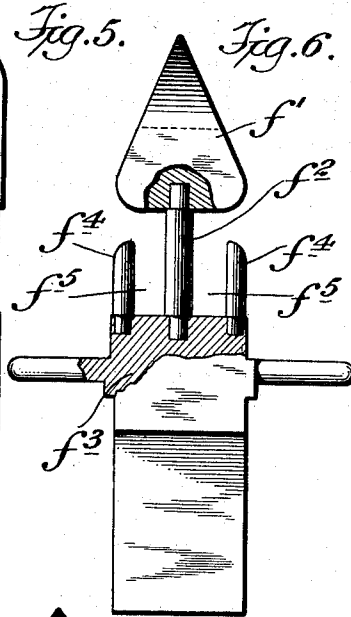
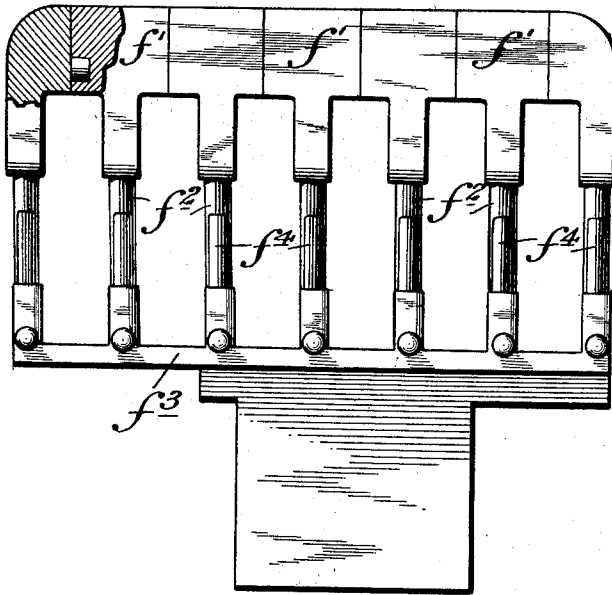
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MACHINE FOR SEWING THE HEADS OF MANTLES.
APPLICATION FILED SEPT. 11, 1908.

1,008,011.

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3 SHEETS-SHEET 3.



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UNITED STATES PATENT OFFICE,

SAMUEL COHN, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO MANTLE MACHINERY AND PATENTS COMPANY, A CORPORATION OF NEW YORK.

MACHINE FOR SEWING THE HEADS OF MANTLES.

1,008,011.

Specification of Letters Patent.

Patented Nov. 7, 1911.

Application filed September 11, 1906. Serial No. 334,110.

To all whom it may concern:

Be it known that I, SAMUEL COHN, a citizen of the United States, and a resident of New York, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Machines for Sewing the Heads of Mantles, of which the following is a specification.

My invention relates to machines for gathering the heads of mantles or other structures of an analogous or like nature.

The invention will be described with particular reference to the machine shown in the drawing without however limiting the invention thereto.

The machine shown is in some of its aspects of the well known Cohn type as that machine is organized for the commercial embodiment of my present invention.

In the drawing, Figure 1 is a side elevation of the machine, shown partly in section to illustrate the details of the needle guide operating means. Fig. 2 is a sectional plan view further illustrating the needle handling mechanism. Fig. 3 is a detached detail view showing a portion of the threader with the thread receiving means in the form of a loop. Fig. 4 is a plan view of a modified form of machine hereinafter referred to. Fig. 4^a is a detail view in sectional elevation of the side members shown in Fig. 4. Fig. 5 is a side elevation partly in section showing an improved form of center member. Fig. 6 is an end view thereof also partly in section of the center member shown in Fig. 5. Figs. 7, 8, 9, 10 show modified forms of center member.

The machine in its general mode of operation is in a degree analogous to the machine shown in my various U. S. Letters Patent, such, for instance, as Letters Patent No. 678542, dated July 16, 1901.

Referring for the present to Fig. 1, *a* is the base of the machine which is provided with brackets *b* and uprights *c* to which are pivoted arms *d* carrying side members *e*. The side members cooperate as usual with a center member *f*. This center member in the present instance constitutes one of the features of the invention and will be more particularly described hereinafter. The main shaft *g* of the machine is provided

with the usual cams *h* for operating the arms carrying the side members and with a cam *i* for operating the threader *j* having the loop instead of the equivalent hook shown in my Letters Patent No. 798,090. Embodied in a machine is the thread support or guide *k*. The function of the thread support or guide *k* is to act as an efficient guide for the thread and at the same time serve as a bearing to permit the operator to engage the thread with her fingers or a mechanical device so that the two free ends thereof will be drawn through the machine equally and the free ends will come out of the mantle with substantially equal lengths. Coöperating with the center and side members are needles *l* which needles are carried in a suitable needle block *m* sliding on the guide rods *o*. Carried also on the guide rods *o* is a needle guide *p*. This needle guide is adapted to receive the points of the needles and guide the same to their destination in the slot or other free opening between the center and side members. This needle guide is carried on a supporting bar *q* which is supported at its rear end *r*, in the block *m* and is frictionally held therein by a spring *s* which bears on the said end and is held in place by a set screw *t*. The needle block is reciprocated by an arm *u* which is driven from the shaft *g* by mutilated bevel or spur gear *v*, *w*. As the needle block moves forward the needle guide rod *q* will move with it until the needle guide reaches contact with the center or side members or other abutment where the guide will stop, the needle block continuing its movement, the spring *s* permitting the guide rod *q* for the needle guide to slide freely in the needle block. Upon the return movement of the needle block the guide rod *q* with the guide *p* will travel with the needle block until the end of the rod abuts against a set screw *x* in its path whereupon the needle block will continue its motion returning to its initial position shown in Fig. 1. A handle *y* or other suitable means serves to operate the shaft *g*.

In Figs. 4 and 4^a I have indicated generally machines of analogous type in which the center member *f* coöperates with side members shown in the present instance as

comprising gears 1, which traverse the center member rolling thereon in a direction longitudinal of the center member and effect the crimping or corrugating. The center member is shown more or less diagrammatically and similar in construction to the center members shown in Figs. 1, 5 and 6 and 7 to 10 inclusive. The gears 1 are carried upon arms 2 which are supported by the needle block *m* and partake of its movement. A needle guide *p* is also provided and is carried by the usual rod *q* set in the needle guide as indicated in Fig. 1. It will be noticed that the gears move with the needles and that the needles take up the running stitch progressively that is to say as the individual teeth go into action the needles take up the stitch step by step. The gears 1 as will be noticed from Fig. 4^a are provided with a circumferential slot adapted for the passage of the needle *l*.

It will be observed that so far as their naked coöperation with the center member is concerned the functions of the swinging jaws or carriers shown in Fig. 1 is in a sense analogous to the wheels shown in Fig. 4 without being full equivalents in all senses and for all purposes irrespective of the needle movement or its capacity to successfully form a greater or less number of corrugations in the fabric, for instance the two constructions constitute movable carriers provided with a series of teeth or corrugating devices adapted to coöperate with the center member. In the present instance I have shown the machine as provided with a sectional center member which will be described with reference to Figs. 5 and 6. In these figures, the center member is shown as consisting of a series of sections *f'* constituting means for opening or separating the head of the mantle which may be placed over the same within which term "means for opening the head of the mantle" etc. I mean to include also a suitable support such as *f*² or the like which is herein shown as an upright pin socketed in a base *f*³. The center member also comprises in its structure a set of side pins, teeth or other corrugating means *f*⁴ shown as set in pairs at the sides of the mantle head opener, but leaving between the said mantle head opener and the side pins a free space *f*⁵ for the passage of the needle. By reason of the fact that the several portions *f'*, *f*² and *f*⁴ extend in the same direction from the base or bed plate, a free space exists for the outward passage of the threads when the mantle has been sewed. In the present instance I have shown them as opening upwardly to facilitate the ready withdrawal of the mantle from the center member.

In Figs. 7, 8, 9 and 10 I have shown modified forms of the center member all having the same general characteristics. These cen-

ter members are adapted each and all to coöperate with various forms of side members, as will be understood by those skilled in the art.

Having described my invention what I claim and desire to secure by Letters Patent, is:—

1. In a sewing machine, the combination with a fabric supporting member and fabric corrugating means coöperating therewith, of needle mechanism having an advance and a return movement relatively to the supporting member and corrugating means, for sewing the corrugated fabric, a needle guide capable of said relative movement with the needle mechanism and also capable of movement with respect thereto, and means for effecting the initial movement of the needle mechanism and guide together with respect to the supporting member and fabric corrugating means on said relative advance movement, and afterward effecting a relative movement between the needle mechanism and guide.

2. In a sewing machine, the combination with a fabric supporting member and fabric corrugating means coöperating therewith, of needle mechanism for sewing the corrugated fabric, having an advance and a return movement, a needle guide movable with the needle mechanism, said needle mechanism being also movable with respect to the needle guide, and means for automatically effecting the initial simultaneous movement of the needle mechanism and needle guide on the said advance movement of the needle mechanism, and afterward effecting a movement of the needle mechanism with respect to the needle guide.

3. In a sewing machine, the combination with a fabric supporting member and fabric corrugating means coöperating therewith, of movable needle mechanism for sewing the corrugated fabric, a needle guide movable with the needle mechanism, said needle mechanism being also movable with respect to the needle guide, common operating means for the guide and needle mechanism, and a slip connection between the operating means and guide that effects the initial movement of the guide with the needle mechanism, and afterward permits the needle mechanism to move with respect to the guide.

4. In a sewing machine, the combination with a fabric supporting member and fabric corrugating means coöperating therewith, of movable needle mechanism for sewing the corrugated fabric, a needle guide movable with the needle mechanism, said needle mechanism being also movable with respect to the needle guide, common operating means for the guide and needle mechanism, a slip connection between the operating means and guide that effects the initial movement of the guide with the needle mechanism, and a stop

for limiting the amount of such movement while permitting a continued movement of the needle mechanism.

5 5. In a sewing machine, the combination of a center corrugating member, side members coöperating therewith, needles acting on either side of the center member, means for operating the needles, a needle guide mounted on and having a frictional engagement
10 only with the needle operating mechanism and a stop adapted to act on the needle guide.

6. In a sewing machine the combination of a center member and side members coöperating therewith to effect the corrugation
15 of a fabric, needle mechanism, a needle guide moving with the needle, with means for moving the same and a friction spring-device intervening between the needle guide and its moving mechanism.

20 7. In a sewing machine, the combination of a center member, and side members coöperating therewith to corrugate a fabric, needles coöperating therewith, a needle guide device coöperating with the needles, common
25 means for reciprocating the needles and guide device the said guide device having a frictional engagement only with its operating mechanism and a stop adapted to act on the needle guide.

30 8. In a sewing machine, the combination with a fabric supporting member and fabric corrugating means coöperating therewith, of movable needle mechanism for sewing the corrugated fabric, a needle guide movable
35 with the needle mechanism, said needle mechanism being also movable with respect to the needle guide, common operating means for the guide and needle mechanism, a slip connection between the operating means and

guide that effects the initial movement of the
40 guide with the needle mechanism, and oppositely disposed stops located in the path of movement of the guide for limiting the amount of movement of said guide in opposite directions while permitting further
45 movements of the needle mechanism in opposite directions.

9. In a sewing machine, the combination with a fabric support and fabric corrugating means coöperating therewith, of a recip-
50 rocatory needle that operates through the corrugated fabric on the support, a needle guide movable with the needle and normally located at the point thereof, and means for simultaneously advancing the needle and
55 guide toward the fabric support and afterward moving the needle alone through the fabric.

10. In a sewing machine, the combination with a fabric support and fabric corrugating means coöperating therewith, of a recip-
60 rocatory needle that operates through the corrugated fabric on the support, a needle guide movable with the needle and normally located at the point thereof, and means for
65 simultaneously advancing the needle and guide toward the fabric support, afterward moving the needle alone through the fabric, effecting the initial return movement of the needle and guide together, and afterward a
70 further return movement of the needle alone.

Signed at New York, in the county of New York, and State of New York, this 10th day of September, 1906.

SAMUEL COHN.

Witnesses:

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