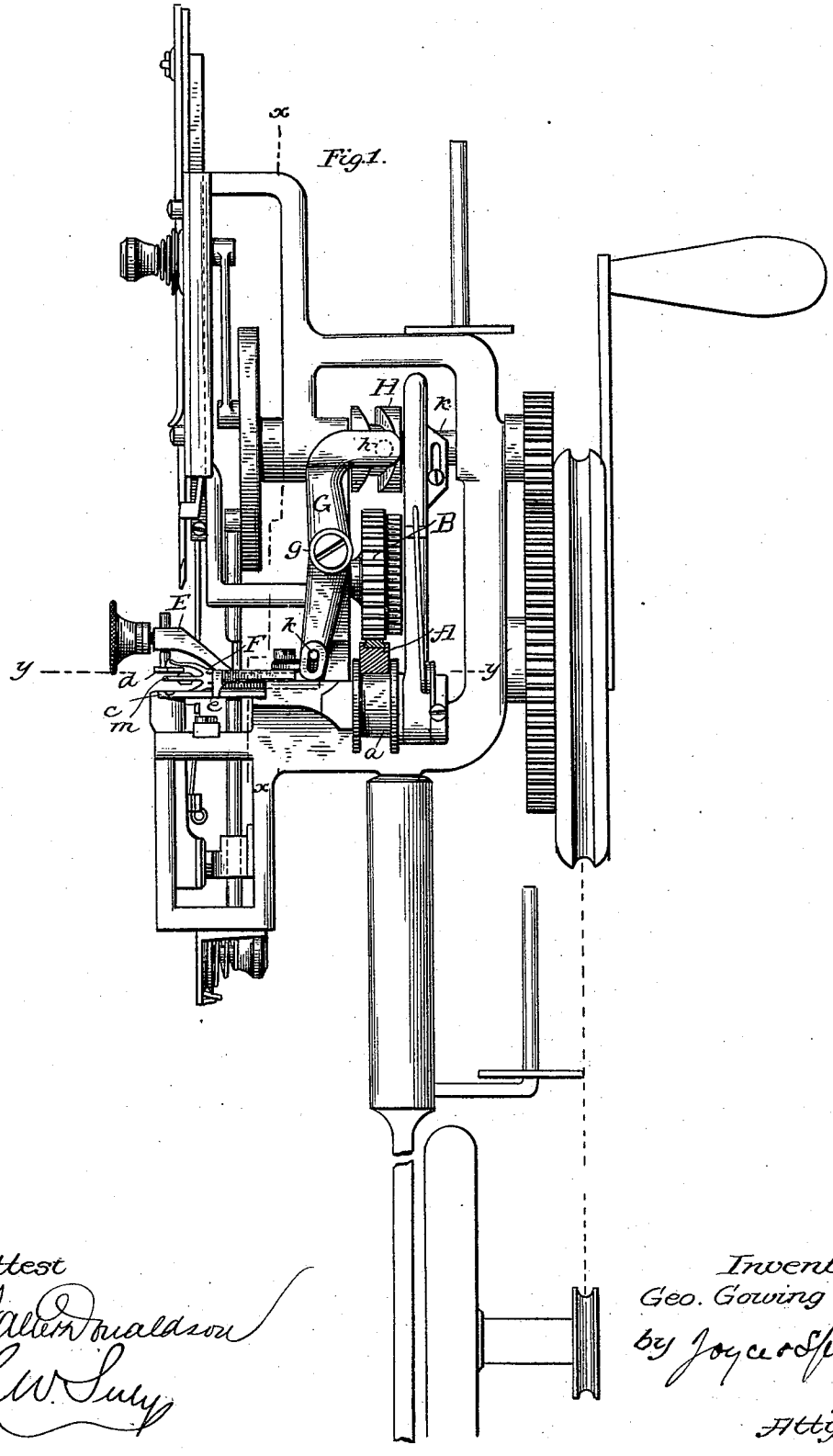
(No Model.) 3 Sheets—Sheet 1.

# G. GOWING.

## SEWING MACHINE FOR SEWING CARPETS AND OTHER HEAVY FABRICS.

No. 287,276. Patented Oct. 23, 1883.

Fig. 1.

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# G. GOWING.

## SEWING MACHINE FOR SEWING CARPETS AND OTHER HEAVY FABRICS.

No. 287,276. Patented Oct. 23, 1883.

Fig. 2.

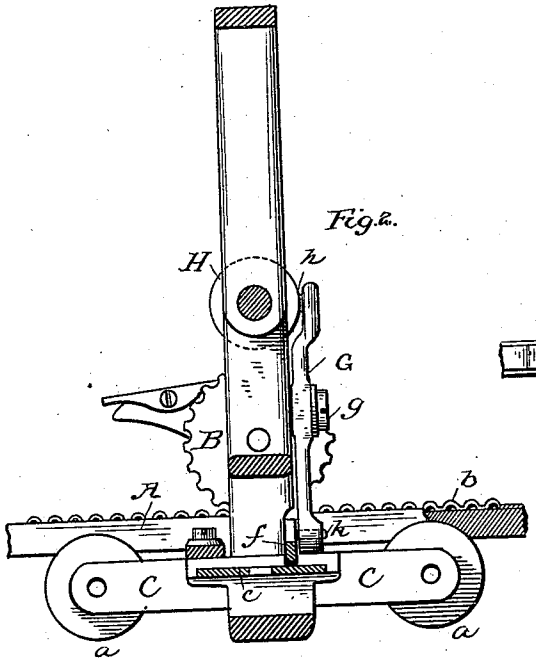



Fig. 3.

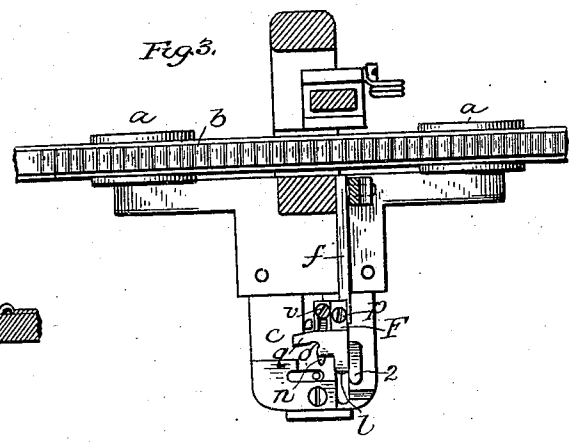



Fig. 6.

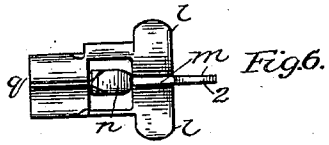



Fig. 4.

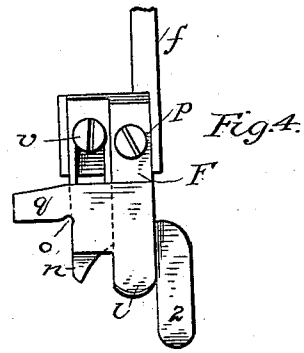
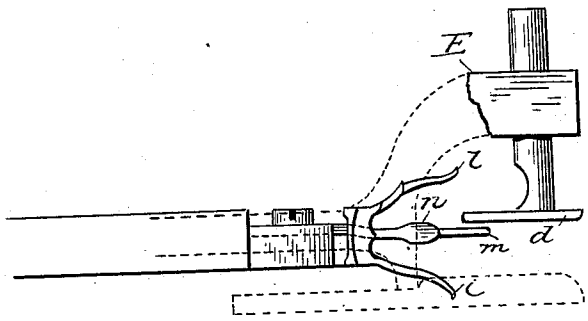



Fig. 5.

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(No Model.) 3 Sheets—Sheet 3.

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## SEWING MACHINE FOR SEWING CARPETS AND OTHER HEAVY FABRICS.

No. 287,276. Patented Oct. 23, 1883.

Fig. 7.

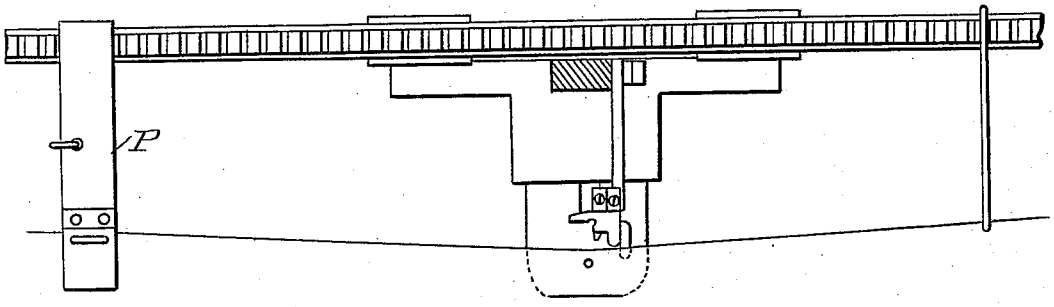



Fig. 8.

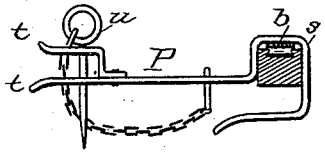
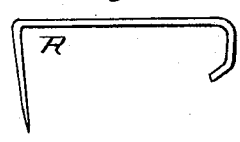



Fig. 9.

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# UNITED STATES PATENT OFFICE.

GEORGE GOWING, OF SAN FRANCISCO, CALIFORNIA.

## SEWING-MACHINE FOR SEWING CARPETS AND OTHER HEAVY FABRICS.

SPECIFICATION forming part of Letters Patent No. 287,276, dated October 23, 1883.

Application filed April 4, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE GOWING, of San Francisco, in the county of San Francisco and State of California, have invented a new and useful Improvement in Sewing-Machines for Sewing Carpets and other Heavy Fabrics; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to machines for sewing carpets and other heavy fabrics. It is an improvement upon the machine shown in Letters Patent granted me on the 15th day of August, 1882, No. 262,586.

The invention consists in certain details of construction.

In the accompanying drawings, Figure 1 shows a side elevation of the machine. Fig. 2 is a section on line *x x* of Fig. 1. Fig. 3 is a horizontal section on line *y y* of Fig. 1. Fig. 4 is an enlarged plan view of the guide shown in Fig. 3 in connection with other mechanism. Fig. 5 is a side elevation of the guide. Fig. 6 is a front view of the guide. Fig. 7 shows a plan of the fabric and pattern regulating devices. Fig. 8 represents a holder. Fig. 9 is another form of holder.

The general principle of the invention requires that the machine move upon a rope or track supported between fixed points, and that the fabric to be sewed be stretched alongside this track with its edges which are to be united extending into a guide in the machine in proper position in relation to the needle, and that the machine as it moves along upon the track shall advance step by step by positive movement, the needle or needles operating at each step in proper order. The machine is supported and moves wholly upon the track, and is not dependent for support upon the fabric upon which its acts.

In the drawings, the track is shown in section at A. The supporting-wheel (shown at B) has its bearings in the frame of the machine and rests directly upon the track. As shown, this wheel is located near the center of the machine, and this is the preferred arrangement, as thereby the machine is more evenly balanced on the track. Supported in bearings in brackets C C, which form part of the frame of the machine, are guide-rollers *a a*, flanged, as shown in Fig. 1, and accurately in line with the bearing-wheel B, but sufficiently below to admit the track A and hold it in proper contact with the bearing-wheel. This construction not only keeps the bearing-wheel and track in contact, but also prevents the machine from wabbling upon the track. In order to prevent a rocking movement, the track is made rectangular in cross-section, as shown in Fig. 1. This precise form is not essential, as any suitable polygonal form may be used instead. The wheel B is provided with teeth, which mesh into corresponding teeth on the upper surface of the bar A, the wheel being moved step by step in the manner explained in my patent heretofore mentioned. In order to form the toothed track in the long sections required for a traveling sewing-machine, which sections cannot be cut by an ordinary tooth-cutting machine, I have provided a special construction shown in Figs. 1 and 2. This consists of a corrugated strip of metal, preferably of steel, which may be struck up or rolled by suitable mechanism to form the teeth out of the sheet metal of the strips. The strip is shown in side elevation in Fig. 2 and in end view in Fig. 1, (indicated at *b*,) and is dovetailed into the track, as shown in the latter figure. It is entirely practicable to use a wire rope instead of the track above described; but the supporting-wheel and the guide-sheaves must be shaped to correspond to the contour of the rope, and the track shown serves the better purpose, as heretofore explained. It may be made in sections lapped and connected by rivets or screws. The track or the rope may be supported at the ends under suitable tension. The supports may be set twenty feet apart, and the machine run that distance without interruption, and without any inconvenient sagging. If the track or rope be stretched for a greater distance, an intermediate prop should be used, around or over which the machine may be lifted without disconnecting it from the edges of the fabric. These edges project, when the machine is in proper position for sewing, over the plate *c* and underneath a guide-plate, *d*, this guide-plate being adjustable vertically, as explained in my former patent, to adapt it to the thickness of the goods.

The rear wall, *e*, of the bracket E, which

carries the guide-plate *d*, forms the rear limit of movement of the edge of the fabric, and this wall, with the needle-plate *c* and the guide-plate *d*, form the general fixed guide for the edges of the fabric; but it is desirable for the best work that the edges should be constantly and accurately adjusted for each action of the needle. It is also desirable that the stitching should be near to the edge, so that when the carpet is laid the two parts of the fabric shall lie edge to edge, uniform as to position and distance in all parts. Too near approach of the needle to the edge in some parts, or inequality in the position of the edges, whereby only is one penetrated, will cause imperfections in the stitching and junction of the parts and lack of uniformity in appearance. To secure this evenness of stitch and an absolute equal distance throughout all the line of stitching from the edges, and a practically even laying of the edges together, requires very nice and constant adjustment of the fabric. I accomplish this by means of a reciprocating adjustable guide, F. The shank *f* of this lies in a groove, as shown in Fig. 2, and is connected to a lever, G, pivoted at *g* on a standard of the frame. The lever G is caused to oscillate by means of a pin, *h*, traveling in a groove in the cam H on the shaft K. The shank *f* is connected to the lower end of the lever by means of a pin, *k*, projecting into a slot in the lower end of the lever G. The guide is provided with slightly-spreading upper and lower plates, *l l*, which embrace the duplicate edges of the fabric, one passing above and the other below, and gradually forcing the edges together. Midway between these plates is a tongue, *m*, adapted to pass between the two fabrics. Behind the tongue *m* is a second and thicker tongue, *n*, having an inclined face, as shown in the plan view, Fig. 4, and made adjustable by means of the screw *v*. This tongue *n* serves to push the nap back away from the edge and prevent it from being sewed in between the two fabrics, so that when the sewed fabrics are opened the nap will form a complete and even edge at the junction, and no part will be bound in and detained in the seam. The guide may be set to advance, so as to bring the point *o* to the needle, but is adjustable on the arm *f* by means of the screw *p*, so that it may be set in or out, according to the distance required between the line of stitching and the edge. The edge of the rear part, *q*, advances only far enough to come up against the line of stitching between the edges. It serves as a guide, to prevent the return or drawing in of the edges after the needle has passed. The tongue *m* has a projection, 2, which is on the forward edge of the tongue, and is never quite withdrawn from the fabric. It therefore insures the certain and accurate entrance of the tongue between the edges as it is pushed forward. With the rear extension, *q*, the tongue is broad enough to hold the edges of the fabric evenly to the needle. The path is cut in the cam H in such a manner, and the cam is so adjusted in relation to the parts which operate the needle, that the guide is thrown forward as the needle rises, and is drawn back and held back while the needle descends to form a stitch. The edges of the fabric are slightly drawn in, both in front and rear of the machine, by devices hereinafter described, so that there is a slight tendency of the edges to follow the retreating guide; but as the guide returns, the plates *l l*, embracing both edges, advance until the bottom of the guide between the plates comes in contact with the edges, and thereby pushes the edges to bring them in even position, where the needle finds them in its descent. At the same time the end of the tongue *n* pushes back the nap just in front of the needle. Thus the edges are adjusted and the nap pushed back step by step, directly in front of the needle, and the fabric is prepared for the sewing in front of the needle and in close proximity to the edge. This lays the edges perfectly even, and equalizes the space between the lines of stitching and the edge throughout the entire length of the fabric. The slot in the lower end of the lever G, by its connection with shank *f*, allows the guide F to rise freely and adjust itself in position to the thickness of the fabric which it embraces.

The rear wall or face, *e*, heretofore described, is not essential to the working of the machine, since the reciprocating guide F is sufficient of itself to regulate the position of the edges, and it will be observed that as the edges are closely embraced the tension of the fabric will of itself tend to guide the machine, although the machine is entirely balanced and supported upon the track, as heretofore explained. The plate *d* is set according to the thickness of the goods, but does not press or grip the fabric. It is set simply as a guide, and moves freely over the surface.

In Fig. 7 the strips of carpet or other fabric and the track are represented in plan, with the machine in position to operate. The carpet is subjected only to about the same amount of tension or stretch which it will have when laid. At the point *x*, where the machine begins its work, the carpet is attached to suitable fixed support, with the figures accurately registering. In front of the machine, at any convenient distance—say three feet—I hook over the cable or track the holder P. (Shown in Fig. 8.) This has a hook, *s*, on its rear end, adapted to fit over the track, and fixed jaws *t t*, adapted to fit over the edges of the fabric. A pin, *u*, is inserted through holes in the jaws and through the inclosed fabric. This holder is set at a distance indicated, or at any distance found by the operator convenient in practice, in front of the machine. The operator adjusts the strips of carpet so as to bring the figures accurately together, with the edges between the jaws, and then inserts the pin. This holds the fabric accurately matched while

the machine is moving to the holder. In rear of the machine I also set a hook, R, adapted simply to draw the fabric slightly in toward the track. The holder P is of a length adapted also to slightly draw the fabric in the same manner, and both cause the edges to tend slightly inward toward the machine, so as to bring them in contact with the guide as it advances to even the edges.

In the machine shown herein, as in my former patent, hereinbefore referred to, the lower part of the machine serves as a balance; but this is not necessary, as the machine may be held by the shape of the track, as described, or may be steadied by the hand of the operator. I may also run a second cable or track underneath or above the first, as a guide-track, the lower or upper part of the machine, as the case may be, being provided with suitable rollers, to bear on said supplemental track.

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

1. In a carpet-sewing machine adapted to run upon a track, the combination of feeding devices taking positive hold upon the track, a bed and guide plate to receive the edges of the fabric, needle mechanism, and a reciprocating guide adapted to act in connection with the needle and to lay the edges even as the needle advances, substantially as described.

2. In or combined with a sewing-machine of substantially the form described, adapted to run upon a track and receive and sew the edges of the fabric, a reciprocating guide adapted to lay the edges even, and a tongue to push back the nap, substantially as described.

3. In combination with a track having a cogged or toothed bearing-surface, a traveling sewing-machine having suitable sewing and guiding mechanism for the fabric, and provided with a toothed wheel above the track for supporting such machine, and with wheels below the track for guiding it, substantially as described.

4. The combination, with a carpet-sewing machine, of the movable holder having clamping-jaws and locking-pins, for operating in connection with the track and carpet.

5. The combination, with a carpet-sewing machine, of a reciprocating guide for adjusting the position of the edges of the fabric, such guide being adjustable in relation to the needle, substantially as set forth.

6. The combination of the reciprocating guide adapted to receive the edges of the fabric, and means which permit the same to rise and fall freely, whereby it automatically adjusts itself to the thickness of the fabric, as described.

7. In combination with a carpet-sewing machine, the guide F, having the slotted tongue *n* and screw *v* for pushing in the nap, as described.

8. In combination with a sewing-machine, the reciprocating guide F, having the extension *q*, for the purpose set forth.

9. In combination with a sewing-machine, the reciprocating guide F, having the tongue *m*, with extension 2, for the purpose set forth.

10. The described track adapted to and combined with a traveling sewing-machine, consisting of a grooved bar and corrugated sections of sheet metal inserted therein and joined together, forming the teeth thereof, substantially as described.

11. A stationary track adapted to and combined with a traveling sewing-machine, consisting of a horizontal bar and a tread or bearing surface of corrugated sheet metal embedded in such bar, for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE GOWING.

Witnesses:
F. L. MIDDLETON,
L. W. SEELY.