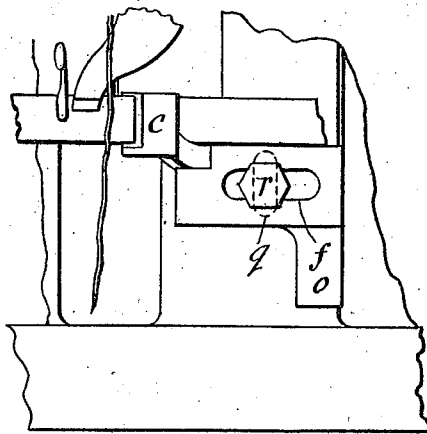
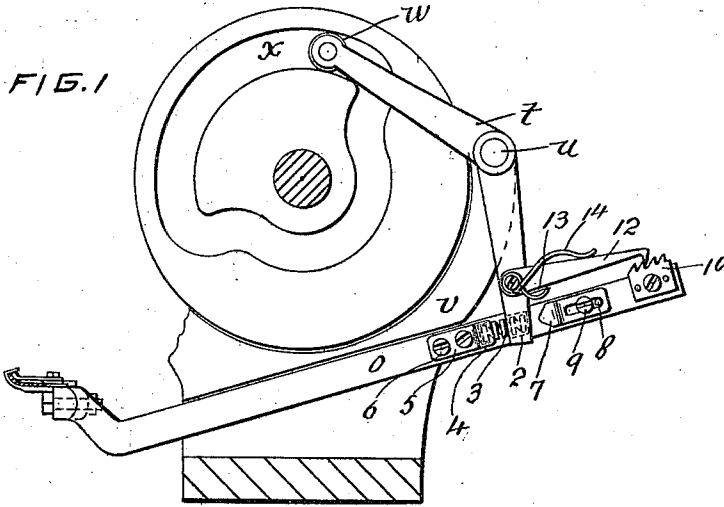


F. J. FREESE.
WELT GUIDE FOR SEWING MACHINES.
APPLICATION FILED JUNE 4, 1901.

1,029,922.

Patented June 18, 1912.

2 SHEETS-SHEET 1.



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2 SHEETS-SHEET 2.

FIG. 2

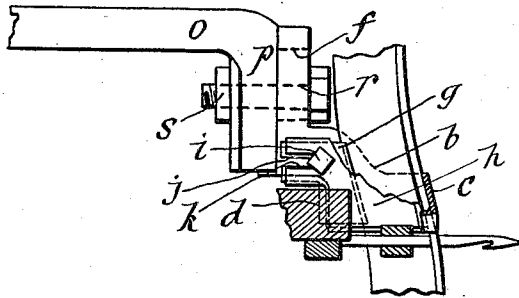


FIG. 7

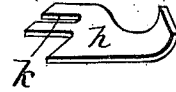


FIG. 4

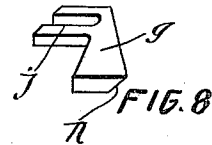
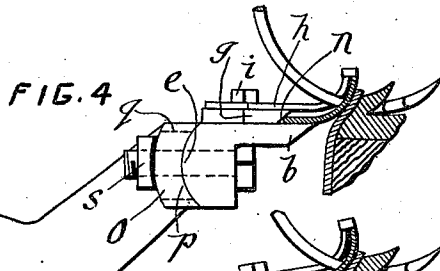


FIG. 8

FIG. 5

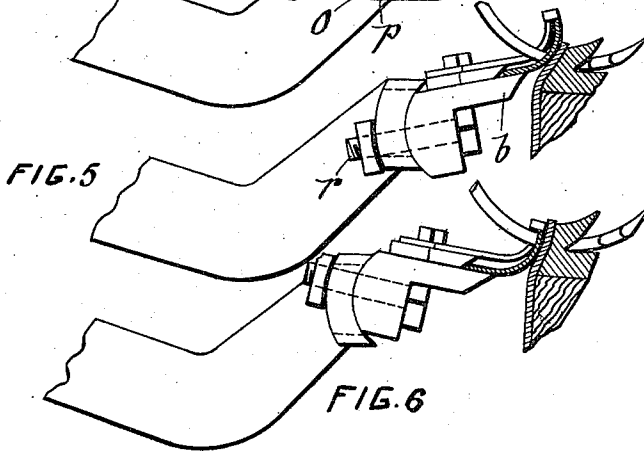


FIG. 6

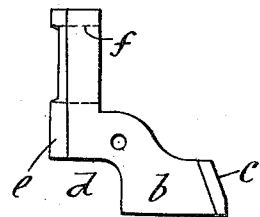


FIG. 9

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UNITED STATES PATENT OFFICE.

FRANCIS JOSEPH FREESE, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

WELT-GUIDE FOR SEWING-MACHINES.

1,029,922.

Specification of Letters Patent.

Patented June 18, 1912.

Original application filed March 31, 1897, Serial No. 630,187. Divided and this application filed June 4, 1901. Serial No. 63,159.

To all whom it may concern:

Be it known that I, FRANCIS JOSEPH FREESE, of the city of Montreal, district of Montreal, and Province of Quebec, Canada, have invented certain new and useful Improvements in Welt-Guides for Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates particularly to sewing machines of the type disclosed in a pending application filed by me on March 31, 1897 under Serial No. 630,187, of which this is a divisional part.

The invention forming the subject matter of the present application may be said briefly to consist of the welt guide disclosed but not claimed in my said pending application and comprising a main welt supporting portion, and a pair of gages, one of said gages being adapted to be adjusted to accommodate welt strips of different thicknesses and the other serves the double purpose of accommodating welt strips of different widths, and, in conjunction with first mentioned gage, retaining welt strips of any width in their proper position relatively to the work.

For full comprehension, however of my invention reference must be had to the accompanying drawings forming a part of this specification, in which like symbols indicate the same parts and wherein—

Figure 1 is a side elevation of a welt guide constructed according to my invention, with its actuating cam; Fig. 2 is a plan view of my improved welt guide and the contiguous end of the slide upon which it is mounted, with a portion of one of the gages broken away and the needle and a portion of its carrying means; Fig. 3 is a front view thereof; Figs. 4, 5, and 6 are side elevations of the same, adjusted to different positions relatively to the work; Figs. 7 and 8 are detail perspective views of the top and intermediate gages respectively; and Fig. 9 is a detail perspective view of the welt supporting portion of the guide.

My improved welt guide consists of a main welt supporting section with a pair of gages for adjusting the guiding passage to accommodate different thicknesses and widths, respectively, of welts.

This main welt supporting section comprises an upwardly curved and tapered portion *b*, having its forward end rearwardly off-set at an angle, as shown at *c* in Fig. 2, and recessed, as at *d*, near its rear end to accommodate the needle segment, its rear end being increased in thickness and of convex form, as at *e*, and horizontally slotted as at *f*, Fig. 3, while its upward end is set at an angle.

The gage for accommodating different widths of welts consists of a plate *g* equal in thickness to the thickest welt, and located between such main portion *b* and a curved plate *h* constituting the gage for accommodating different thicknesses of welts, both of these gages being held in place by a retaining screw, *i*, adapted to take through slots *j* and *k* in such respective gages *g* and *h*. These gages have their forward ends set at an angle, and otherwise correspond in plan view to the main supporting portion *b* and the forward end of gage *g* is upwardly beveled as at *n* in order that such forward end may bear downward upon the rear edge of the welt.

The means for adjustably carrying and operating this welt guide consists, of a slide, *o*, set preferably at an angle (such as shown in Fig. 1) and having its forward end off-set and of concavo-convex form, as at *p*, and provided with a vertical slot *q*, (Fig. 3).

The welt guide is set with its rear convex face in the forward concavity of the slide where it is adjustably held by means of a screw-threaded bolt, *r*, passed through the slots *f* and *g*, and taking into a nut *s*, having one face of concave form and located in contact with the convex face of the off-set portion of the slide *o*. This arrangement allows the forward end of the welt-guide to be adjusted from or to the needle according as a stitch of greater or less length be made, or to various heights relatively to the work, and at the same time, will enable the various parts to be effectively held against displacement after having been adjusted, (all as shown in Figs. 4, 5, and 6).

A reciprocal movement is imparted to the slide, *o*, by means of a lever, *t*, fulcrumed as at *u* to an upward extension from the rear of the web section, *v*, the upper end of

this lever carrying a roller, *w*, adapted to take into a cam groove or "double-leader" *a*. The lower end of the lever is transversely recessed as at 2, to receive one end of a helical spring 3, the other end of which is located in a socket 4, formed (in line with the recess 2) in the face of a stop, 5, secured to the slide, *c*, preferably as shown, by screws, 6, a slotted stop, 7, having its forward end of convex form being adjustably secured to such slide in rear of the lower end of the lever, by a stud, 8, carried by the slide and adapted to take into the slot of the stop, and a screw 9, taking through such slotted stop into the slide.

In order to lock this welt guide in its position in contact with the work, a ratchet-toothed rack 10, is secured rigidly to the slide adjacent to the adjustable stop 7, and with the teeth thereof uppermost, and a pawl, 12, is pivotally secured to the lever and adapted to engage such ratchet teeth when the slide and lever are in their foremost position, while a stop 13 secured to the lever *t* and projected rearwardly and laterally therefrom, extends underneath the pawl, upon which stop the pawl is caused to normally bear by means of a spring 14, coiled above the pin upon which the pawl is fulcrumed and having one end caught beneath the stop and its other end bearing upon the top of the pawl.

It is obvious that when the lever and slide are in their foremost positions the pawl will, as before mentioned be caused to engage the rack and the slide will be held against rearward displacement against the spring, 3, and upon the slide being moved back by the lever, the stop 13 will engage the pawl and lift same out of engagement with the rack.

To adapt this welt guide for use, the retaining screw, *i*, should be loosened and the gage *g* adjusted toward or from the outer end of the supporting section *b*, until a space equal to the width of "welt" to be employed, is established and the gage, *h*, similarly adjusted until a space, equal to the thickness of such "welt" is established between the forward end thereof, and the upwardly curved forward end of the supporting section, *b*, when the retaining screw, *i*, may be again tightened.

What I claim is as follows:—

1. A welt-guide consisting of a forwardly extending and upwardly curved rigid welt supporting section having its forward end set diagonally of the line of feed and rearwardly off-set, an adjustable gage consisting of a plate, the forward end whereof is set at an angle to the work and upwardly off-set, a gage consisting of an adjustable plate located between said first mentioned gage and the rigid welt supporting section and having its forward end beveled, means for re-

taining said gages in place and means for adjusting said gages, substantially as described and for the purpose set forth.

2. An adjustable and reciprocating welt-guide consisting of a forwardly extending and upwardly curved rigid welt supporting section having its forward end set diagonally of the line of feed and rearwardly off-set, an adjustable gage consisting of a plate the forward end whereof is set at an angle to the work and upwardly off-set, a gage consisting of an adjustable plate located between said first mentioned gage and the welt supporting section, means for retaining said gages in place, means for adjusting said gages, means for adjusting said welt-guide, and means for reciprocating same, substantially as described and for the purpose set forth.

3. In a sewing machine a suitably supported reciprocating slide, a welt-guide carried by the forward end of said slide, a suitably mounted vertical lever, means for vibrating said lever, the forward face of the lower end of said lever being horizontally recessed, a horizontally recessed stop carried by said slide, a helical spring having its ends located in the recesses in said lever and stop, and a stop carried by said slide and adapted to be engaged by the rear side of said lever, substantially as and for the purposes set forth.

4. In a sewing machine, a suitably supported reciprocating slide, a laterally adjustable welt-guide carried by the forward end of said slide, a suitably mounted vertical lever, means for vibrating said lever, the forward face of the lower end of said lever being horizontally recessed, a horizontally recessed stop carried by said slide, a helical spring having its ends located in the recesses in said lever and stop, and an adjustable stop carried by said slide and adapted to be engaged by the rear side of said lever, substantially as and for the purpose set forth.

5. In a sewing machine, a welt guide having its rear side of semi-circular convex form and slotted, a welt guide carrying part having its forward side of semi-circular concave form and slotted at right angles to the slot in said guide, said semi-circular concavity adapted to receive said semi-circular convex side of the welt guide, said slots registering with one another and a screw-bolt adapted to take through said slots and into a retaining nut, substantially as and for the purpose set forth.

6. In a sewing machine, a suitably supported reciprocating slide, a welt-guide carried by the forward end of said slide, a lever, a cam for operating said lever, a yielding connection between the forward side of said lever and said slide, a rigid stop carried by said slide in position to be engaged by the

rear side of said lever, a ratchet-toothed rack carried upon said slide, a pawl carried by the lever, a spring for causing said pawl to engage said rack when the slide is in its extreme forward position, means for causing said pawl to disengage said rack during the rearward movement of said slide, substantially as described and for the purpose set forth.

7. In a sewing machine, a suitably supported reciprocating slide; a welt guide carried by the forward end of said slide; a lever; a cam for operating said lever; a yielding connection between the forward side of said lever and said slide; a rigid stop carried by said slide in position to be engaged by the rear side of said lever; a ratchet-toothed rack carried upon said slide; a pawl pivotally carried by the lever; means for causing said pawl to engage said rack when the slide is in its extreme forward position; and a stop carried by said lever to engage said pawl and disengage same from said rack during the rearward movement of said slide, substantially as and for the purpose set forth.

8. In a sewing machine, a suitably supported reciprocating slide; a welt guide carried by the forward end of said slide; a lever; a cam for operating said lever; a yielding connection between the forward side of said lever and said slide; an adjustable rigid stop carried by said slide in position to be engaged by the rear side of said lever; a ratchet-toothed rack carried upon said slide; a pawl pivotally carried by the lever; a spring carried by said lever and bearing upon said pawl to cause same to engage said rack when the slide is in its extreme forward position and a stop carried by said lever to engage said pawl and disengage same from said rack during the rearward movement of said slide, substantially as and for the purpose set forth.

9. A welt guide for inseam sewing machines, having, in combination, a welt guide slide having a lateral projection at its forward end, a main supporting portion provided with a slotted base adapted to be secured to the lateral projection of the slide, a thickness gage and an edge gage having slotted ends, and means for securing said ends to the main supporting portion, substantially as described.

10. A welt guide for inseam sewing machines, having, in combination, a welt guide slide having lateral projection at its forward end, said lateral projection being provided with a vertical slot and a welt guide having a base provided with a horizontal slot, and a bolt adapted to pass through said slots to secure the welt guide to the welt guide slide, substantially as described.

11. A welt guide for inseam sewing machines, having, in combination, a main sup-

porting portion provided with an upwardly curved forward end, provided at the extremity thereof with a rearwardly bent lip, a thickness gage upwardly curved at its forward end, and an edge gage, said thickness gage and edge gage being adjustably secured to the main supporting portion by suitable securing means, substantially as described.

12. A welt guide for inseam sewing machines, having, in combination, a welt guide slide having a concave face on its forward end, a welt guide having a base provided with a convex surface adapted to fit said concave surface, and means for securing the welt guide to the welt guide slide, substantially as described.

13. A welt guide for inseam sewing machines, having, in combination, a main portion provided with an upwardly curved forward end, a thickness gage and an edge gage, such thickness gage being adjustable toward and from the main supporting portion by suitable securing means, substantially as described.

14. A welt guide for inseam sewing machines, having, in combination, a main supporting portion and a thickness gage upwardly curved at their forward ends, an edge gage, and means for securing the parts together permitting adjustment of the curved portion of the thickness gage toward and from the main supporting portion, substantially as described.

15. A welt guide for inseam sewing machines, having, in combination, a main portion provided with an upwardly curved forward end and having at the extremity thereof a rearwardly bent lip, a thickness gage, an edge gage, and means for securing them together permitting adjustment of the thickness gage toward and from the forward end of the main supporting portion, substantially as described.

16. A welt guide for inseam sewing machines, having, in combination, a welt guide slide having a curved face on its forward end, a welt guide having a base provided with a complementary curved face adapted to fit said curved face, and means for securing the welt guide to the welt guide slide, substantially as described.

17. A welt guide for inseam sewing machines, having, in combination, a welt guide slide and a welt guide, said welt guide slide and welt guide having complementary faces permitting vertical angular adjustment of the guide to change its angular position with relation to the slide, and means for fixing them in adjusted position, substantially as described.

18. A welt guide mechanism, having, in combination, a welt guide, a slide upon which it is supported, a single cam, and mechanism including a single cam engaging

member actuated by the cam and operating during one portion of its movement under the influence of the cam to move the slide, and during another portion of its movement
5 to lock the slide, substantially as described.

19. A welt guide mechanism, having, in combination, a welt guide, a slide upon which it is supported, a cam, a locking device for the slide, and a lever actuated by
10 the cam and operating during one part of its movement to move the slide and during another part of its movement to throw the locking device into operation, substantially as described.

20. A welt guide for inseam sewing machines, having, in combination, a main supporting portion with an upwardly curved forward end provided at its extremity with a rearwardly bent lip, a thickness gage
20 curved upwardly at its forward end so as to

meet the lower side of the lip on the main portion, and an edge gage, the thickness gage being adjustably secured to the main supporting portion, substantially as described.

21. A welt guide mechanism having, in combination, a welt guide, a slide upon which it is supported, a locking device for the slide, mechanism including a single cam engaging member operating first to un-
30 lock the slide and then to retract it and a single cam for actuating said mechanism, substantially as described.

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

FRANCIS JOSEPH FREESE.

Witnesses:

WILLIAM P. McFEAT,
R. A. C. KIMBER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
