Nov. 5, 1957 N. MARFORIO 2,811,940

LOOPER CONTROL FOR SEWING MACHINES

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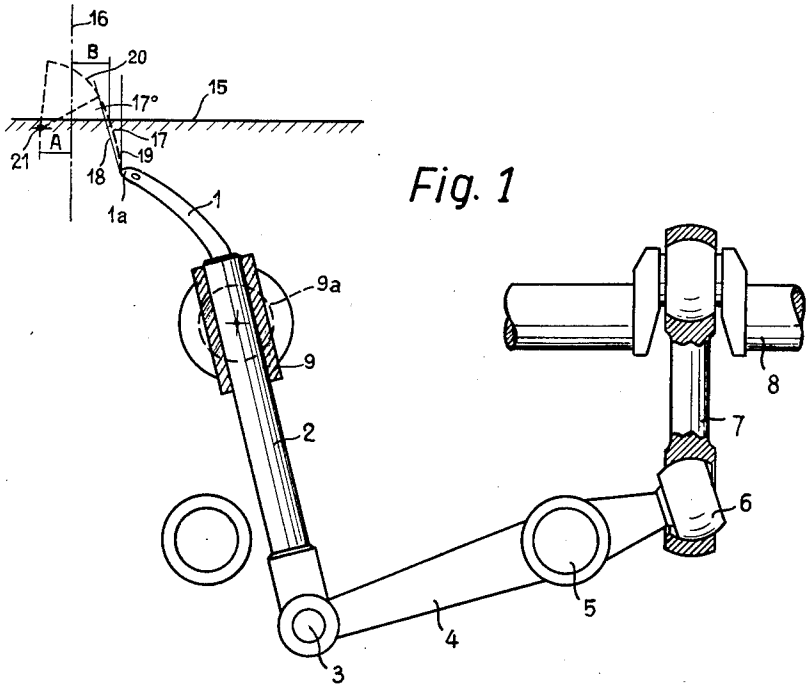


Fig. 1

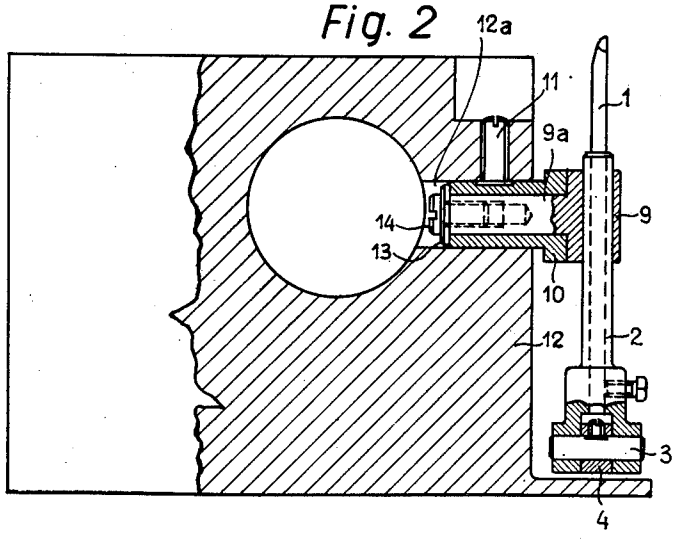


Fig. 2

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LOOPER CONTROL FOR SEWING MACHINES

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1 Claim. (Cl. 112—192)

This invention relates to a control device for rocking loopers for sewing machines.

It is a purpose of this invention to provide a looper control device which causes the looper bit to travel over a path adapted to improve the sewing operation.

A further purpose of this invention is to provide a control device of the type referred to, which is simpler and less expensive in construction than devices presently in use.

The improved looper control device for sewing machines comprises a rod to one end of which a looper is secured, means for causing the other end of said rod to rock over an arcuated path and a slideway for the rod freely rotatable about an axis perpendicular to the rod axis and intersecting the latter.

The invention shall be described by way of example with reference to the accompanying drawings, wherein:

Figure 1 is a diagrammatical front view of the control device;

Figure 2 is an end view of Figure 1 on a smaller scale, the device being fitted to the sewing machine.

The looper **1** is mounted on the end of a rod **2** hinged by a pin **3** to a lever **4** rocking about a pivot **5**.

The rod **2** is capable of sliding in a guideway **9** provided with an extension **9***a*, the axis of which intersects the rod axis, said extension **9***a* being rotatable in a bearing **10** secured by means of a set screw **11** in a recess **12***a* in the frame **12** of the sewing machine.

A washer **13** held in position by means of a screw **14** axially screwed into the extension **9***a* prevents removal of the extension **9** from the bearing.

The end of the lever **4** remote from the hinge pin **3** is formed with a spherical head **6** engaged by a spherical recess in a connecting rod **7** driven in a known manner by a crankshaft **8**.

15 denotes the plane of the cloth plate, **16** the path of the needle tip.

With the size and arrangement of the component parts shown on the drawing, the tip **1***a* of the looper travels over a path comprising a first portion denoted **17** comparable with an arc of a circumference of a large radius, the chord **18** of the arc **17** being at an angle of about 17° to the line **19** parallel with the path **16** of the needle tip.

The second portion of the path of the looper tip is denoted by **20** and is comparable with an arc of a circle having its centre at **21** slightly beneath the plane **15** of the cloth plate and spaced by an extent A from the path of the needle tip smaller than the spacing B between said path and the looper bit where the latter extends through the plane of the cloth plate.

What I claim is:

In a sewing machine comprising a frame, a needle reciprocated over a rectilinear path, a cloth plate supporting the work through which the needle path extends, and loopers, a device for controlling a looper comprising a rod supporting at its upper end the looper secured thereto, a tubular guideway for slidably supporting said rod, a cylindrical extension on said guideway extending perpendicularly thereto and with its axis intersecting the axis of said rod, a bearing secured to the frame for rotatably supporting said extension, a pin at the lower end of said rod having its axis parallel to that of said cylindrical extension but being provided at the opposite side of the rod, a rocking lever arranged in a plane parallel to the plane in which lies the axis of said rod, a pivot fast with the machine frame for rockingly supporting said lever at a point intermediate the ends of the latter, a driving crankshaft arranged with its axis perpendicular to the direction of the axis of said pivot, a connecting rod interposed between the crank of said crankshaft and the end of said rocking lever remote from said rod, a spherical head on said end of the rocking lever, and a spherical recess at the end of said connecting lever opposite the crankshaft for engaging said spherical head, the other end of said rocking lever being hinged on said pin provided at the lower end of said rod.

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