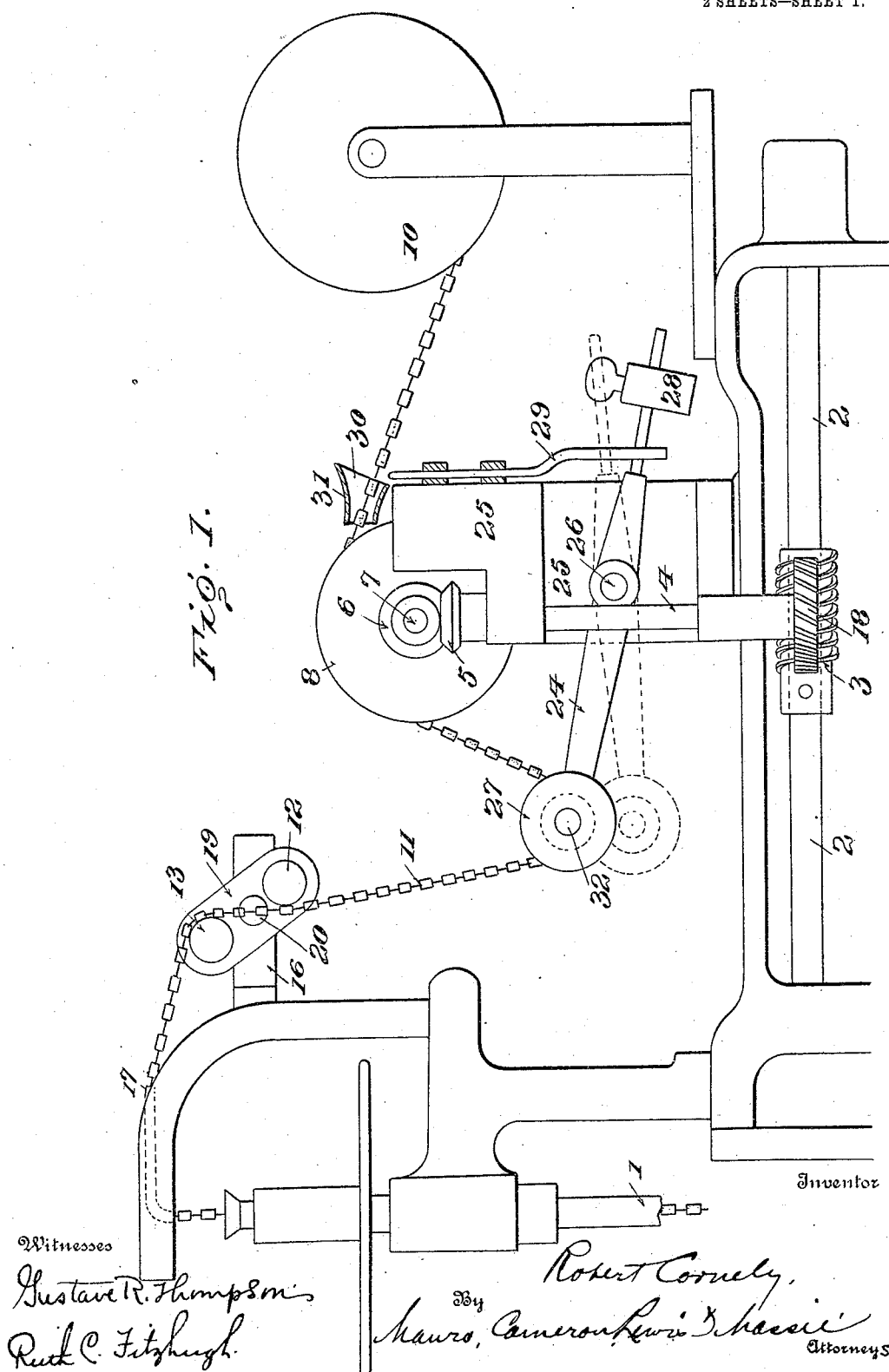


940,788.

R. CORNELLY.
SEWING AND EMBROIDERING MACHINE.
APPLICATION FILED APR. 21, 1909.

Patented Nov. 23, 1909.
2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 2.

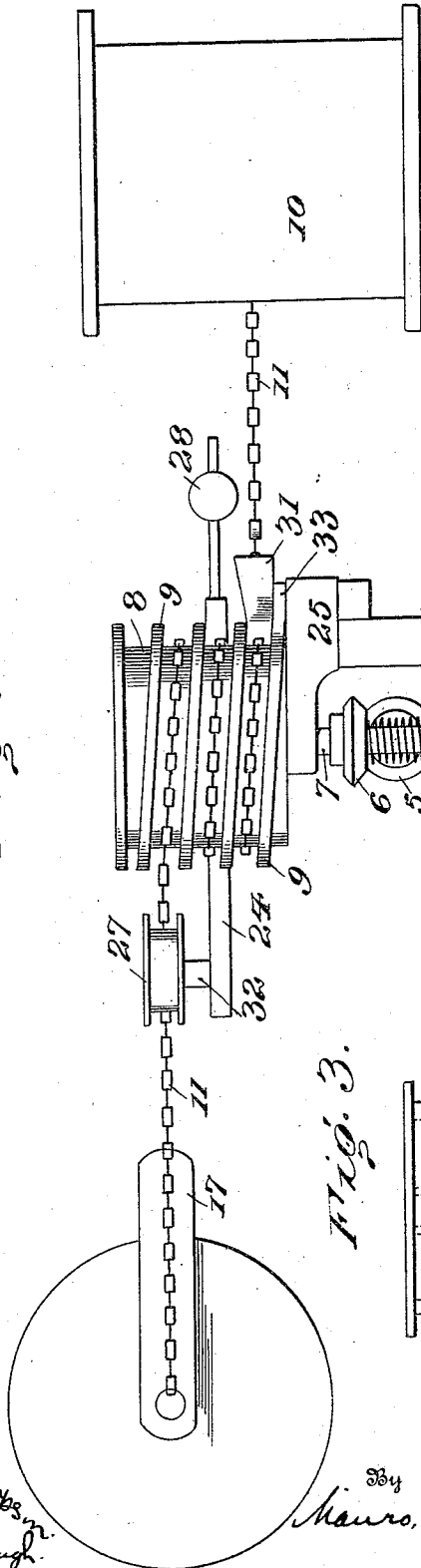


Fig. 3.

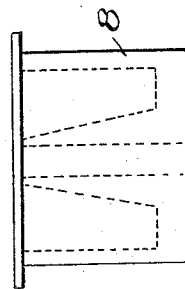
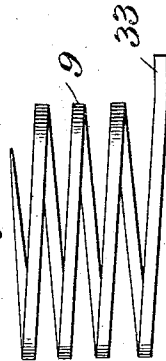


Fig. 4.



Inventor

Fig. 5.



Fig. 6.

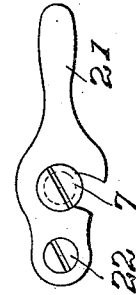
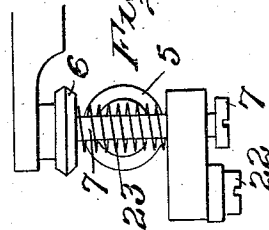


Fig. 7.



Witnesses
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ROBERT CORNELLY, OF PARIS, FRANCE.

SEWING AND EMBROIDERING MACHINE.

940,788.

Specification of Letters Patent.

Patented Nov. 23, 1909.

Application filed April 21, 1909. Serial No. 491,333.

To all whom it may concern:

Be it known that I, ROBERT CORNELLY, resident of Paris, France, have invented new and useful Improvements in Sewing and Embroidering Machines, which are fully set forth in the following specification.

The object of the present invention is a mechanism for feeding stringed beads or other materials to sewing and embroidering machines and for automatically regulating this feed and for compensating all irregularities which may occur therein during the working of the machine.

The machines used heretofore for sewing beaded or other materials to the cloth presented the inconvenience that the spool on which these materials are wound, diminishes naturally constantly in weight, on account of said materials being used up gradually by the machine, so that the tensions vary constantly and therefore prevent a regular work, besides said materials did not always run regularly from the spool, on account of certain materials like stringed beads being themselves very irregular.

The object of the present invention is to obviate all these inconveniences and the accompanying drawings represent as an example a mechanism showing the manner in which this problem is resolved.

Figure 1 is a view, partly in elevation and partly in vertical section, of the upper part of the head of a sewing machine provided with my improvements; Fig. 2 is a plan view of the machine shown in Fig. 1; Figs. 3 and 4 are detailed views of the feeding drum and spiral guide; and Figs. 5, 6 and 7 are other detailed views.

Main shaft 2 of the machine is provided with a worm wheel 3 which drives a gear 18, the latter drives shaft 4 and cog wheels 5 and 6 (Figs. 1, 2 and 5). Shaft 7 of cog wheel 6 drives cylinder 8 (Figs. 1, 2 and 3) which may rotate within a spiral or otherwise shaped guiding device 9 (Figs. 2 and 4) which is secured at 33 to the casting 25 of the machine, so that said spiral 9 does not rotate with the cylinder 8. The material 11 which comes from the spool 10 is wound around cylinder 8 into the spaces of the spiral 9 and said material is fed by the rotation of said cylinder 8. This guiding of the material within the spaces of the spiral device 9 forces the different rows of the material wound around cylinder 8 to remain separated from each other, as otherwise they

would touch each other, cross themselves or get mixed up and thus prevent a regular work. From cylinder 8 the material passes around roller 27, the object of which will hereafter be explained and then the material passes between or partly around two arms or rollers 12 and 13 which are secured on a bracket 16 which can be turned on its fulcrum 20 in order to obtain more or less friction of the material and finally the material passes through guiding arm 17 and penetrates into the needle-bar 1 from where it reaches the cloth.

It is evident that the spiral or otherwise shaped guiding device is not necessary for all kinds of materials, in which case it may be withdrawn from cylinder 8 and then said cylinder 8 will work as represented at Fig. 3.

The above mentioned roller 27 turns freely upon its shaft 32, which shaft 32 is secured to the end of a lever 24 which swings freely upon its fulcrum 26, said fulcrum being secured to the casting 25 of the machine; the other end of lever 24, which may be provided with a regulable counter-weight 28, operates a slide 29 which according to its position, opens or closes the entrance 30 of tube 31 which leads the material to cylinder 8; this mechanism works in the following manner: When during the work, for some reason or other, the material is fed too quickly, so that there will be too much unabsorbed material between cylinder 8 and the entrance of the needle-bar 1, then the roller 27 which is supported by said material will descend with its lever 24 into the position shown in dotted lines at Fig. 1 and consequently the slide 29 will ascend in order to close the entrance 30 of tube 31, so that no more material can be drawn by cylinder 8 from spool 10; but the machine going on working, absorbs this surplus of material, thus lifting automatically roller 27 with its lever 24 and thus causes slide 29 to descend again, thus opening again the entrance 30 of tube 31, in order to permit again a regular feed of the material. This mechanism is therefore an automatic regulator for the purpose of always feeding the material in regular and required lengths and for compensating or neutralizing all effects caused by variations in weight of the spool, by variations in the length of the stitches of the machine or by any other irregularities which may occur during the work.

When the machine is to produce a plain

seam only without sewing on any material, then the whole above described mechanism can be thrown out of gear by means of lever 21 (Figs. 2, 5, 6 and 7) which turns around its fulcrum 22; when this lever 21 is in the position shown at Figs. 2 and 6, the cog wheels 5 and 6 are in gear and will consequently cause cylinder 8 to rotate. But if this lever is moved upward into position of Fig. 7, then the spiral spring 23 which is on shaft 7 pushes cog wheel 6 out of gear from wheel 5 (Fig. 5) and then the whole mechanism is thrown out of gear.

Claims—

1. In a sewing and embroidering machine, the combination of a needle-bar, means for feeding material to said needle-bar, and gravity-actuated means for engaging said material to suspend the supply thereof to said feeding means when the absorption of material to the work falls below a predetermined amount.

2. In a sewing and embroidering machine, the combination of a needle-bar, means for supplying material to said bar, a revoluble cylinder adapted for receiving one or more wraps of said material, and drawing the same from said supply and feeding the same to the needle-bar, and means responding to slack in the material between said needle-bar and cylinder for acting on the material to suspend the supply of the same to said feeding cylinder.

3. In sewing and embroidering machines, the combination of a needle-bar, means for supplying material to said bar, a revoluble cylinder drawing material from said supply

means, and a stationary spiral guide concentric with said cylinder for preventing contact between the windings of the material on said cylinder.

4. In a sewing and embroidering machine, the combination of a hollow needle-bar, means for supplying material to said bar, a revoluble cylinder, having a spiral guide, drawing material from said supply and delivering same to said bar, a lever provided on one arm with a roller adapted to hold the material taut between the cylinder and needle-bar, and means engaging the opposite arm for controlling the supply of material to said feeding cylinder.

5. In a sewing and embroidering machine, the combination of a needle-bar, means for supplying material to said needle-bar, a revoluble cylinder drawing the material from said supply and delivering the same to said bar, a stationary spiral guide concentric with said cylinder for preventing contact between the windings of said material on said cylinder, a gravity-actuated tension member holding the material taut between said cylinder and needle-bar, and means actuated by said member for engaging said material to suspend the supply thereof to said feeding cylinder when the absorption of material by the work falls below a predetermined amount.

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

ROBERT CORNELLY.

Witnesses:

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JOHN BAVIER.