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L. WINDSCHAUER

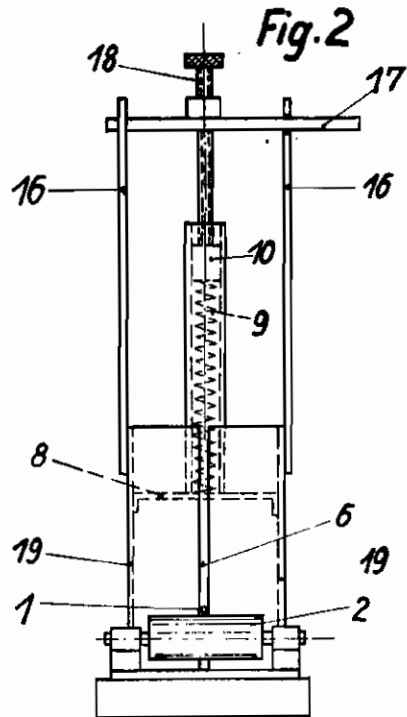
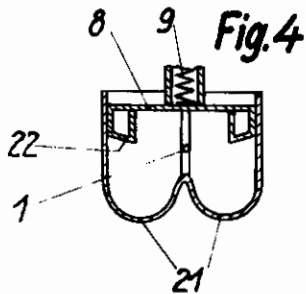
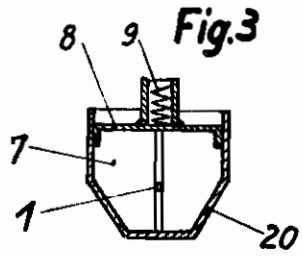
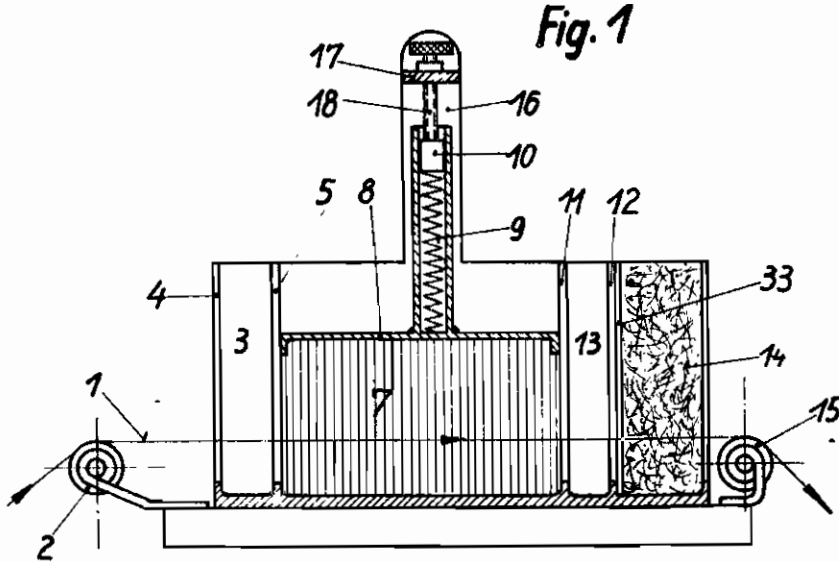
Serial No.

MAY 4, 1943. PROCESS FOR THE PREPARATION OF TEXTILE THREADS 441,151

BY A. P. C.

Filed April 30, 1942

3 Sheets—Sheet 1



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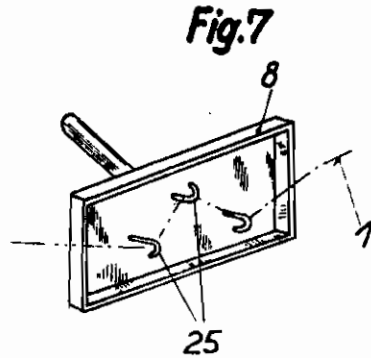
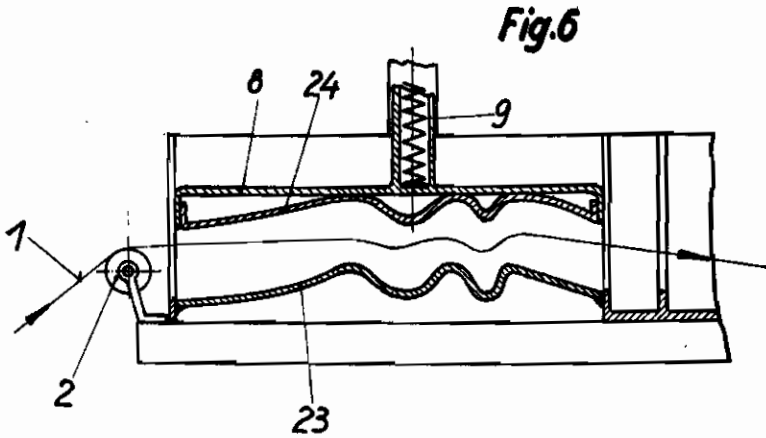
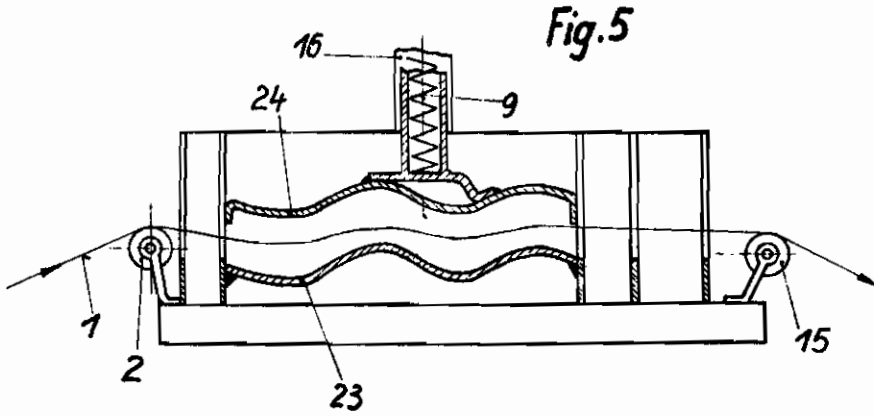
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Fig. 8

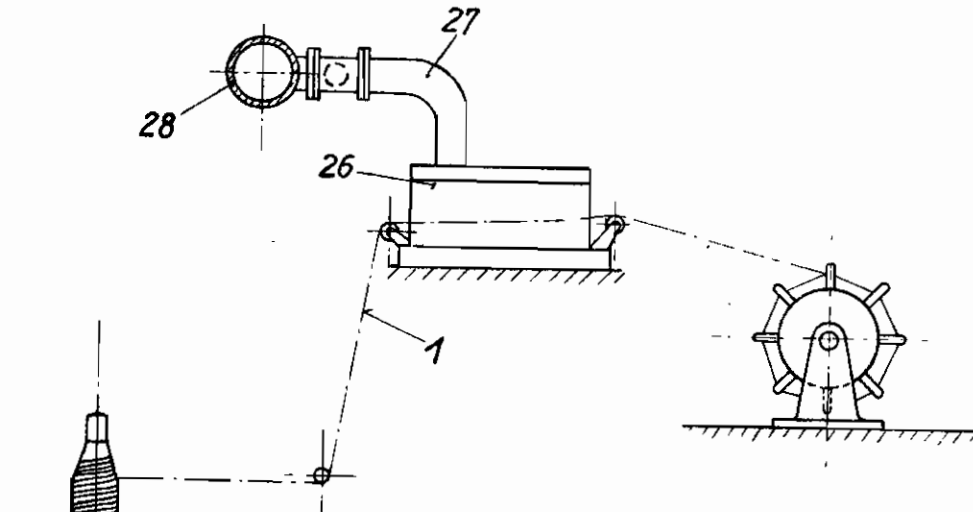
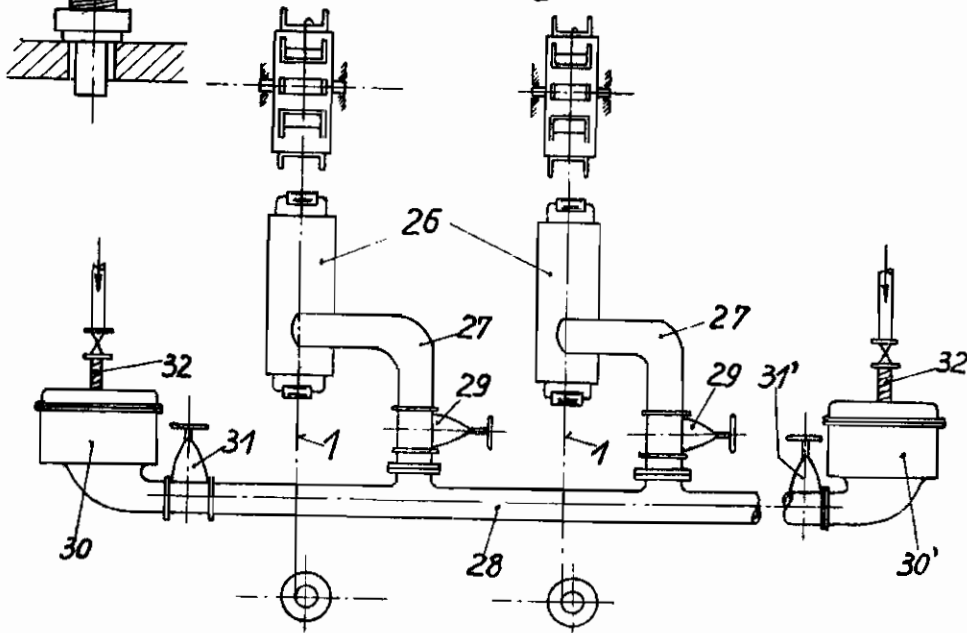


Fig. 9



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ALIEN PROPERTY CUSTODIAN

PROCESS FOR THE PREPARATION OF TEXTILE THREADS

Leib Windschauer, Berlin, Germany; vested in
the Alien Property Custodian

Application filed April 30, 1942

The invention relates to a process, and suitable devices for the application of such process, for preparing textile threads in the running thread for manufacture on weaving machines, hostery machines and looms. With the method used the thread is passed through a treating agent contained in a vessel provided with lateral inlet openings and outlet openings.

It is known to grease threads with liquid greasing agents and also with solid agents, made up of pieces, such as paraffine or wax. When using liquid agents it is difficult to seal or pack the inlet places and the outlet places of the thread; when using solid agents the pressure existing between the solid pieces will result in partly gripping the thread as far as it does not pass through the cavities ungreased. In such case the greasing will not be uniform, besides, there is considerable likelihood of breaking of the thread.

According to the present invention, however, the thread is passed through a highly-consistent grease mass subjected to pressure in a vessel provided with lateral inlet slots and outlet slots. This permits of inserting also sensitive and easily breakable threads, since they cannot be gripped in the consistent grease mass. It will be possible to impart great rapidity to the passing of the thread, as the formation of a tunnel surrounding the path of the thread is prevented by the pressure to which the grease mass is subjected, and the sealing or packing at the inlet places and the outlet places of the thread does not offer any difficulties, since the highly consistent grease mass cannot escape even through small openings, not lying in the direction of the pressure, as would be the case with a liquid subjected to pressure. The threads can be easily inserted through the slots and the pressure piston, serving for generating the pressure, when passing downwards corresponding to the consumption of the grease mass, is not hindered by the thread as this can follow in the slot, being always imbedded in the grease mass.

For taking up the grease particles escaping through the slot and with the thread from the vessel, there are arranged at the vessel containing the treating agent outside of the walls provided with the thread passing slots, one or more separating chambers for the treating agent.

In addition, in order to prevent the formation of tunnels also in the case of a very high rate of passing speed of the thread, provision may be made by the design of the vessel to have the pressure directed in radial direction towards the

path of the thread. This can be effected by providing the bottom of the vessel in section with a 3-shaped cross section arranged vertically to the direction of the run of the thread. The bottom of the vessel and the under surface of the pressure piston may be corrugated in the direction of the run of the thread. This also causes continual follow-up pressing of the grease mass into the path of the thread.

The pressure acting on the grease mass may be exerted, in addition to using a movable covering piston, also indirectly over the grease mass itself or by a transmitting agent, for instance, compressed air, pressure gas or a pressure liquid. In order to permit uninterrupted treatment of the thread, the total arrangement may be designed in such a manner that several of the passage spaces for the threads containing the grease mass are connected over a common collective lead to several storage vessels subjected to pressure which may be individually separated from the collective lead. By alternately re-filling one of the storage vessels, at the time, which has been previously separated from the collective lead, it will be possible to continually keep the plant under pressure by way of the other storage vessel.

The drawing shows several modes of construction of the arrangement for making use of the invention.

Figure 1 shows a longitudinal section through a grease vessel with an elastic pressure piston.

Figure 2 shows a side view thereof.

Figures 3 and 4 show two differing modified forms of a cross section of the design of the vessel.

Figures 5 and 6 show two differing modified modes of construction in longitudinal section.

Figure 7 shows a mode of construction of the pressure piston with thread holders in perspective view.

Figures 8 and 9 show a total arrangement with collective lead and storage vessels subjected to gas pressure in side elevation and plan view.

In the arrangement of the Figures 1 and 2 the thread 1 passes first over the roll 2 pressed upwards by spring action and through the pre-chamber 3, whose walls 4 and 5 are provided with slots 6 and enters the grease mass 7, which is subjected to the pressure of the slidable piston 8 which is pressed downwards by a spring 9 with regulable counter plate 10. The thread is led out through the slots, which may be packed by felt strips 11, arranged in the walls 11 and 12, through the separating chamber 13 and through the

after-arranged stripping chamber 14, which may be filled with felt, over the roll 15 to the reel or the skein winder. The spring 9 is supported, for ensuring as uniform spring power as possible, over the entire length of its path at a comparatively high pair of stays 16 with the aid of the retractable cross piece 17 and the adjusting screw 18. The part of the vessel containing the grease mass arranged between the walls 8 and 11 may have simple rectangular side walls 19 as shown by Figure 2. But the walls may also be so designed that the effect of the pressure of the piston 8 may be reflected, as it were, towards the thread 1. This results, for instance, from the mode of construction of Figure 3 by the downwards tapering walls 20 and still more so as shown by Figure 4 by the walls 21 being bent upwards at both sides at the bottom. For further augmenting this effect the piston 8, according to Figure 4, is provided with lateral and, if called for, elastic projections 22, which exert an especially large amount of the total pressure on the zones of the grease mass located at the walls and in their vicinity.

In the arrangement shown in Figure 5 the bottom 23 of the passage vessel and also the pressure piston 24 is designed corrugated in the direction of the run of the passage of the thread 1, so that the path of the grease particles carried along by the thread extends obliquely to the path of the thread proper.

In the mode of construction shown by Figure 6

the corrugations of the bottom and the piston will be increasingly curved during the length of path and will follow one another in quicker succession.

On the piston 8 shown in Figure 7 are provided hooks 25 guiding the thread on an angular path. Angularity in the direction of the path of the piston may be obtained by differing lengths of the hooks 25.

In the arrangement according to Figures 8 and 9 several vessels 26, closed at the top, are connected over heavy leads 27 to a common collective lead 28 from which they may be individually disconnected by a slide 29. To the same collective lead 28 are connected the storage vessels 30 and 30', which may be disconnected by the slide 31 and by way of the leads 32 may be subjected to the pressure of a liquid or a gaseous medium.

The lead according to the Figures 8 and 9 permits of filling up the storage vessels 30 and 30', without interrupting operations. The vessel to be replenished is disconnected during replenishment from the collective lead 28 by its slide 31 and 31', respectively, and the other storage vessel or storage vessels keep the total arrangement under pressure during this time. The vessels 26 may be made in one of the modes of construction of the figures 1 to 7; the cover of the vessel, however, need not be movable in this case but may be firmly and tightly connected to the walls of the vessels.

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