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P. CEASAR

STEAMING DEVICE FOR YARNS

Filed May 4, 1925

Fig. 1

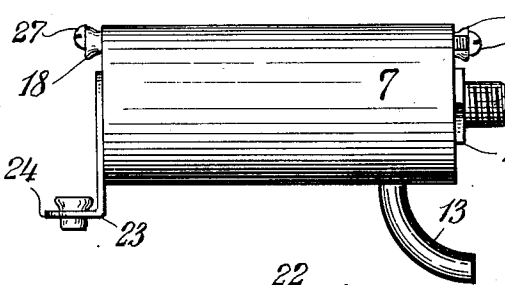


Fig. 2

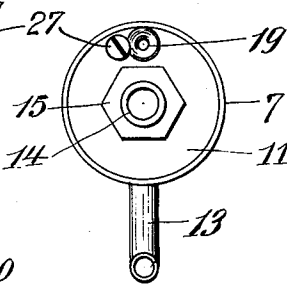
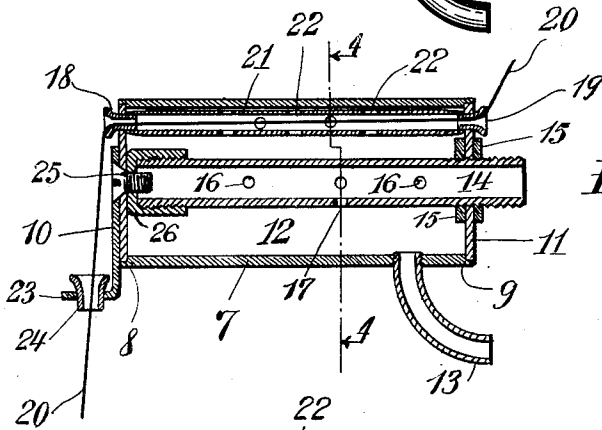


Fig. 3

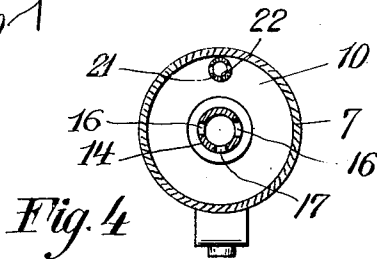


Fig. 4

Fig. 6

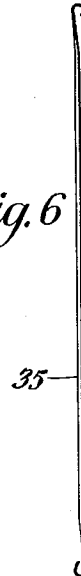
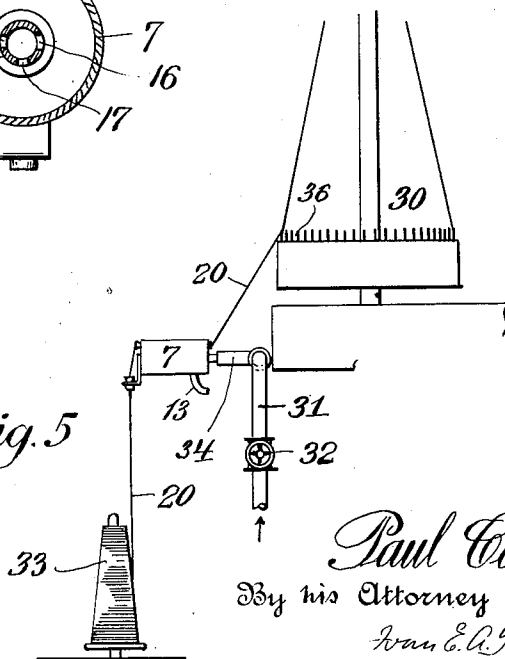


Fig. 5



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STEAMING DEVICE FOR YARNS.

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To all whom it may concern:

Be it known that I, PAUL CEASAR, a citizen of the United States, and resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Steaming Devices for Yarns, of which the following is a specification.

This invention relates to improvements in devices for steaming yarns preparatory to weaving or knitting them into fabrics.

More particularly this invention relates to an improved apparatus or device adapted to be used in connection with knitting mills for knitting silk underwear.

It is known in the art that it is desirable or necessary to subject or expose the individual yarn to the influence of steam for the purpose of making it more pliable or flexible. One particular reason for doing this is to save the needles in the knitting mill which otherwise break or become damaged by the hardness of the yarn. The steaming of the yarn also results in a softer fabric.

Devices for steaming the yarn are in use at the present time. But some of them are objectionable because of their size and because the steam is permitted to escape therefrom and into the workroom.

This is in some places so objectionable that special arrangement must be made to insure proper ventilation for the workmen.

The object of my invention is to provide a small device, easily attached to the existing installations, inexpensive to manufacture and whereby very little, if any, escape of the steam is permitted.

With these objects in view my invention is embodied in a steaming device for yarns arranged and constructed as hereinafter set forth and as illustrated in the accompanying drawing in which—

Figure 1 is a side view of the device.

Figure 2 is a right hand end view thereof.

Figure 3 is a longitudinal sectional view.

Figure 4 is a cross sectional view on line 4—4 of Figure 3.

Figure 5 is a diagrammatic view showing the use of the device.

Figure 6 is a view of a tool used with the device.

Referring to the drawing my device consists of a small cylinder 7 the ends of which are formed with shoulders 8, 9 to receive the heads or ends 10, 11 whereby said cyl-

inder is closed to form a steam chamber 12 provided with a drain pipe 13.

A steam supply pipe 14 is secured to the one head 11 by nuts 15, 15. The pipe is provided with steam outlets 16, 16 on the sides and a drain outlet 17 in the bottom. The top of the pipe is not perforated.

In each head 10, 11 there is inserted a porcelain eyelet 18, 19 which serve to guide the yarn thread 20 and which also serve to support the yarn steam pipe 21 which is provided with openings 22, 22.

A bracket 23 is secured at the one end of the device adjacent or against the head 10. The bracket carries a guide eyelet 24 also preferably of porcelain. A screw 25 secures the bracket to the cylinder and passes into the closed end 26 of the steam supply pipe 14. When the parts are assembled it will be noticed that by tightening the screw 25 the two ends 10 and 11 are drawn together with the pipe 14 to properly position all the parts.

Screws as 27, 27 or other equivalent means may be used to prevent the eyelets 18, 19 from falling out.

Referring now to Figure 5 the reference numeral 30 denotes a knitting machine of a well known type and indicated diagrammatically for the only purpose of illustrating the use of my steaming device.

As is usual in such installations there is provided a main steam pipe 31 controlled by a valve 32. The yarns pass from spools 33 usually supported on the floor or lower than the knitting machine. The steaming device is supported in a suitable position between the spools and the machine. Only one spool is shown.

In the present instance I propose to connect my steaming device with the steam pipe 31 by means of a nipple 34 screwed on the device supply pipe 14 as shown. Then by means of the needle or tool 35 the yarn is caught and pulled from the spool through the yarn pipe 21 and thence in the usual manner into the needles 36 of the machine 30.

During operation the valve 32 is opened and steam then passes through pipe 14 and the openings therein into the steam chamber 12.

It will be noted that the steam cannot pass directly upwards with any force against the yarn but passes sideways through the open-

ings 16, 16. The steam then fills the chamber and through the openings 22, 22 fills the yarn steam pipe so that as the yarn is drawn through said pipe it is steamed for the purposes aforesaid.

As the steam condenses the water flows out through the drain opening 17 and through the drain pipe 13.

By regulating the valve 32, the proper volume of steam is admitted to the device, and it has been found of advantage and importance to arrange for the passage of the steam in the manner described.

The yarn steam pipe 21 serves the purposes of guiding the yarn in the steam chamber, protects the yarn against a too direct application of the steam and also serves to dry the steam around the yarn as the said pipe is heated by the steam itself.

The device provides a very simple apparatus for accomplishing the objects of the invention. It is easily installed, economical to manufacture and use and prevents the steam from escaping into the room but confines it at the point of application.

While I have disclosed my invention in its preferred form, nevertheless I wish it understood that I do not limit myself to the precise form shown nor to any particular size or any particular materials, but that changes may be made within the intended and legitimate scope of the appended claims.

I claim:—

1. A device of the character described

comprising a cylinder, heads for closing the ends thereof whereby to form a steam chamber within the same, a steam supply pipe secured to one of said heads and extending from end to end of said chamber, said pipe having a solid top portion and steam outlets in its sides, yarn guide eyelets supported in the said heads, a yarn guide steam pipe supported on said eyelets within the chamber and above the said steam pipe, steam inlets provided in said yarn guide steam pipe, a yarn guide bracket and a screw for supporting said bracket at the one end of said cylinder, said screw passing into the one end of said steam pipe whereby to secure the latter in position and to draw the said heads tightly against the ends of the said cylinder.

2. A device of the character described comprising a closed cylindrical hollow body forming a steam chamber, a steam supply pipe supported centrally within the same and provided with steam outlets in its sides and with a drain opening in the bottom, a drain pipe secured in the bottom of said steam chamber, a yarn guide steam pipe supported in said steam chamber near the top thereof and provided with steam inlets, yarn guide eyelet secured in said body for guiding the yarn into said yarn guide steam pipe, a yarn guide bracket and a screw for securing said bracket to the said body and for securing the aforesaid elements in position.

PAUL CEASAR.