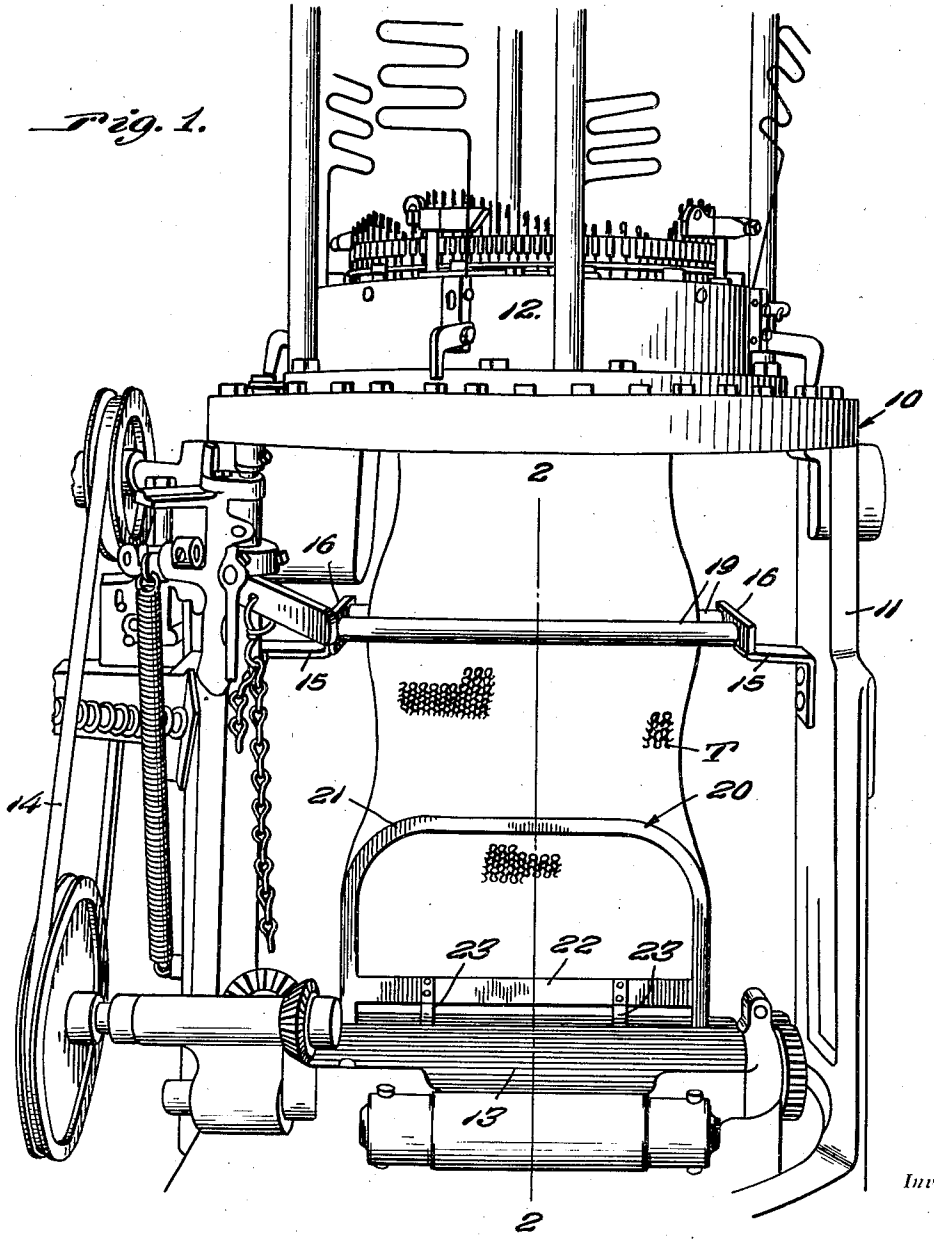
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APPARATUS FOR KNITTING SCOURING CLOTHS

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Fig. 1.



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Fig. 2.

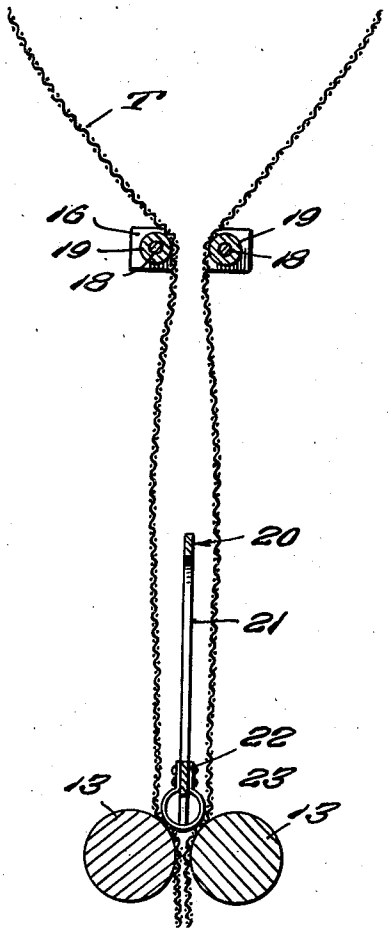


Fig. 3.

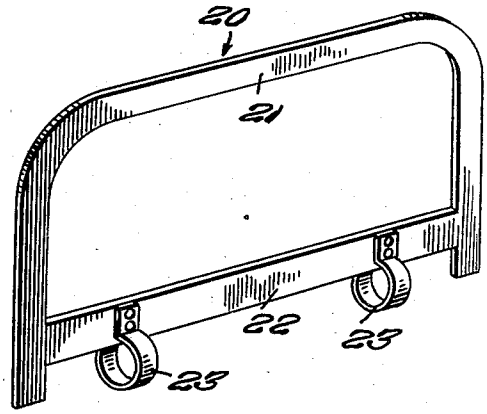


Fig. 5.

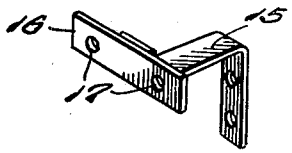
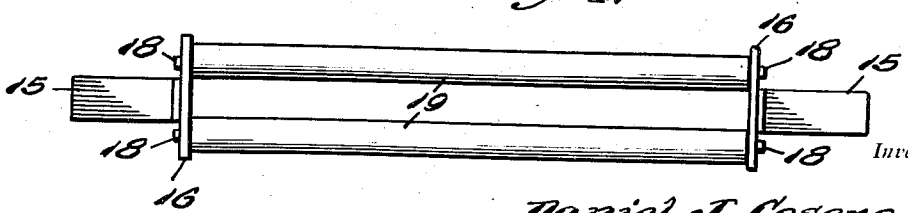


Fig. 4.



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APPARATUS FOR KNITTING SCOURING CLOTHS

Daniel J. Cosgro, Cohoes, N. Y.

Application February 27, 1946, Serial No. 650,409

1 Claim. (Cl. 66—147)

1

This invention relates to knitting scouring cloths and has for its primary object to produce scouring cloths from a relatively stiff yarn, such as yarn of metal strands, yarn of a composite nature such as metal and fabric strands mixed, or strands of relatively stiff plastic substances or mixtures thereof with fabric strands.

Another object is to equip an ordinary circular knitting machine for the production of scouring cloths.

The above and other objects may be attained by employing this invention which embodies among its features knitting a tubular fabric body from a relatively stiff yarn, flattening said tubular body, and spreading said tubular body in the plane in which it is flattened.

Other features include a pair of flattening rolls mounted on a circular knitting machine in a position to engage opposite sides of the fabric tube as it leaves the knitting cylinder to flatten it and a spreader below the flattening rolls to expand the fabric in the plane in which it is flattened by the flattening rolls prior to its introduction into the take-up rolls with which the knitting machine is normally provided.

Still other features include a spreader adapted to be positioned within the fabric tube and supported on the inner faces of the walls thereof adjacent the take-up rolls.

In the drawings,

Figure 1 is a view of a knitting machine equipped with my improved flattening and tube spreading equipment,

Figure 2 is a longitudinal sectional view taken substantially along the line 2—2 of Figure 1,

Figure 3 is a perspective view of the spreader,

Figure 4 is a top plan view of the fabric flattening rolls and the brackets supporting the same, and

Figure 5 is a perspective view of one of the brackets employed for supporting the flattening rolls.

Referring to the drawings in detail a knitting machine designated generally 10 is provided with the usual frame 11 supporting at its upper end a knitting cylinder 12 all in the conventional manner. Supported in spaced relation to the lower end of the cylinder 12 in the frame 11 are conventional take-up rolls 13 which are driven in unison with the knitting cylinder 12 by means of a belt drive 14. All of the structures so far referred to will be found in conventional circular knitting machines and forms no part of my invention.

Mounted on suitable brackets 15 in a position

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slightly below the lower end of the knitting cylinder 12 are bearing members 16 provided with spaced openings 17 in which the trunnions 18 of closely spaced parallel rolls 19 are received. It will thus be seen that as the knitted fabric tube T leaves the cylinder 12 it will be squeezed together in one plane to form a flattened tubular structure. Leaving the flattening rolls 19 the knitted tubular body T is directed downwardly between the take-up rolls 13 in a conventional manner. It has been found however, that due to the tension on the fabric created by the take-up rolls 13, the fabric has a tendency to contract transversely and elongate longitudinally with the result that its contour is destroyed for the purpose intended.

In order to overcome the contracting tendency of the fabric between the flattening rolls 19 and the take-up rolls 13 I have found it desirable to introduce a spreader designated generally 20 which comprises an inverted U-shaped frame 21 the legs of which are joined near their ends by a cross bar. Riveted or otherwise attached to the cross bar 22 near opposite ends are ring shaped feet 23 which as illustrated in Figure 2 are adapted to ride on the inner face of the fabric tube T adjacent the take-up rolls 13, it being understood that the frame 20 is held against downward movement by said take-up rolls. It will thus be seen that the tendency of the longitudinal tension of the fabric imparted to it by the take-up rolls to cause the fabric to contract will be counteracted by the use of the spreader 20.

In operation the fabric tube T is produced on the cylinder 12 of the knitting machine 10 and upon leaving the lower end of the cylinder, the tube T will be subjected to a flattening operation by the rolls 19. Upon further downward movement of the fabric tube T it will encounter the spreader 20 which tends to expand the tube in the plane in which it was flattened and thus to counteract any tendency of the take-up rolls 13 to cause a transverse contraction of the tube. It is to be noted that both the flattening, and the expanding operations are carried on while the portion of the tube being so treated is yet attached to the parent body. In this way subsequent flattening and expanding of the product may be avoided with the resultant loss of time and labor, and as a result considerable savings in the production of scouring cloths may be effected.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor

changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having thus described the invention, what is claimed as new is:

The combination with a circular knitting machine adapted to produce tubular fabric having a knitting cylinder and take-up rolls below the knitting cylinder, of a pair of flattening rolls supported on the machine near the point from which the tubular fabric leaves the cylinder for engaging opposite sides of the fabric tube and flattening it and a spreader supported on the take-up rolls for engaging the fabric and expanding it in the plane in which it is flattened.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
105,537	Abel	July 19, 1870
265,296	Adgate	Oct. 3, 1882
558,353	Cochrane	Apr. 14, 1896
1,196,195	Wildman	Aug. 29, 1916
1,736,387	Barratt	Nov. 19, 1929

FOREIGN PATENTS

Number	Country	Date
6,880	Great Britain	1887