Oct. 12, 1948. E. S. BEARD 2,450,932

TEXTILE SPREADER

Filed Feb. 27, 1947

Fig. 1.

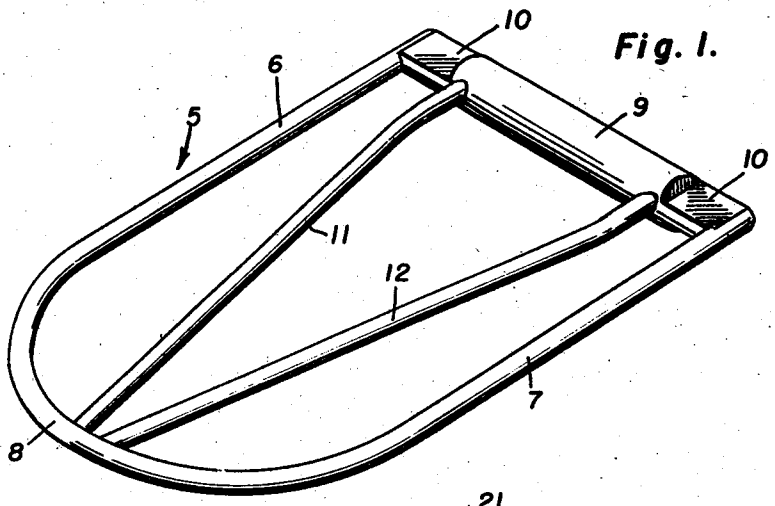
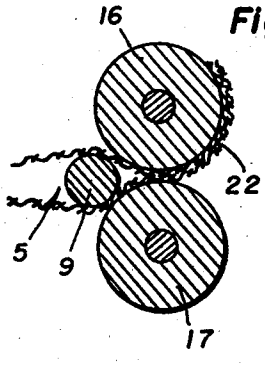


Fig. 3.



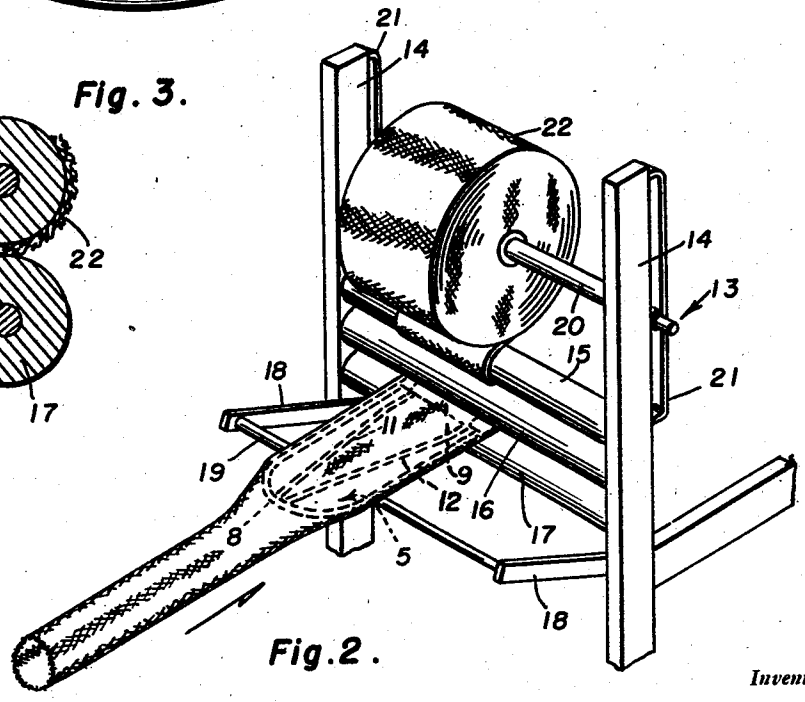


Fig. 2.

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TEXTILE SPREADER

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2 Claims. (Cl. 26—55)

1

The present invention relates to spreaders such as are used in the textile trade and industry for spreading tubular webbing made, for example, from cotton, wool, rayon, silk and the like.

Tubular material spreaders in this same field of endeavor are, of course, not new. What is more, there are variant types which are in use or have been proposed for use and they serve, primarily, to spread the webbing as it passes thereover and to thereafter assist in reeling or winding same into a skein or other convenient form to later assist in the making of underwear and the like. These spreaders are used, as a matter of fact, to control and govern the size of undershirts, such as are prepared from tubular stock of the nature under advisement. Spreaders are made in different sizes and each one is generally ½ inch larger in width than the other, the lengths being generally the same; and, as stated, the spreader is commonly used prior to the completion of a shirt or equivalent garment.

In the trade, after the webbing is bleached, the next operation is to form the size of the garments and this is done by passing the webbing over a spreader of the type herein shown and described. There are quite a number of spreaders in practical industrial use ranging from some 6 inches to 42 inches. The size is mentioned in reference to the outside dimensions or width of the spreader as a unit.

In carrying out the principles of the instant invention, I have evolved and produced a simple and efficient spreader construction which is possessed of the utmost of simplicity and is otherwise such in design and adaptable construction as to better fulfill the requirements of the textile industry in this specific phase thereof.

The fact that some of these spreaders in use are fairly complicated and are often fragile in general make-up, it is another purpose of the invention to provide a spreader which is strong and durable, is destined to long life and is strengthened because of the adaptation and allocation of the complemental features which go to form the complete device.

Other objects and advantages will become more readily apparent from the following description and the appended claims.

In the accompanying sheet of drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a perspective view of a tubular

2

textile spreader constructed in accordance with the invention.

Figure 2 is a perspective view showing major portions of a winding and reeling frame for producing the skein, this showing the manner in which the tubing is sized by spreading and is then conveniently wound for subsequent usage.

Figure 3 is a fragmentary detailed section showing portions of the textile tubing, a portion of the spreader and complemental rollers for pulling the tubing over the spreader for reeling.

Referring now to the drawings by distinguishing reference numerals, the textile tubing spreader, in a unitary sense, is in the nature of an open-work frame. It is preferably constructed from stainless steel and the over-all length is fairly much the same in different spreaders employed, they vary in width, as stated, from six inches to forty-two inches in order to determine the sizes for shirts, from small to extremely large. The spreader in the instant case is characterized essentially by a U-shaped frame 5 including rectilinearly straight side limbs 6 and 7 and a curvate connecting portion or bight 8. The corresponding ends of the limbs 6 and 7 are adjoined by a base-bar whose intermediate portion 9 is cylindrical in cross-sectional form and whose end-portions are rectangular in cross-sectional form and fashioned into extensions 10 which join with the ends of the limbs 6 and 7. Of essential importance is the stabilizing and reinforcing means employed. This consists of converging rods or stays 11 and 12 connected at their converging ends to the center of the bight 8 and connected at their remaining ends to the outer end-portions of the cylindrical portion 9 of the base-bar.

Reference is had now to the spreader as used in conjunction with the rolling and reeling machine or means. This includes a frame structure 13 including uprights 14 with a plurality of idling and material smoothing rollers 15, 16 and 17 therebetween. It further includes outstanding arms 18 with a supporting cross-rod 19 therebetween. The spreader is rested partly on the cross-rod 19 and with its opposite base-rod portion in close proximity to the rollers 16 and 17, as brought out in Figure 3. The reeling shaft 20 has its end-portions removably mounted in adapter frames 21 on the uprights, the shaft rising as the windings or convolutions are built up to form the roll or so-called skein 22. Then, the skein may be detached or employed as is

thereafter customary in the manufacture of garments employing sized and rolled tubular knitted fabrics. All of these spreaders, as has been before pointed out, are for the same basic purpose, that is, to adjust tubular fabrics knitted on circular knitting machines to size and to form same into a "skein" for convenient and manufacturing advantages.

In practice, the spreader may be held in position by a support bar 19 on the frame as shown, or it may be laid or placed on a table or the like (not shown) and the tubing allowed to pass over it and then between the various rollers 15, 16 and 17 for final reeling purposes. It is simple and as far as is known, is the strongest on the market today and its strength is emphasized by the U-shaped formation and the base-bar between the limbs, the braces between the base-bar and apex or bight portion of the U-shaped part. Other spreaders wear, bend and break, which has led to the production of the instant spreader, one which is sufficiently durable and suitably sized and shaped to accomplish requisite ends with the utmost in efficiency and certainty. As stated, the structure is unusually simple with no attachments to be bothered with and is of readily noticeable and appreciable strength. It is to be noted, too, that the revolving skein 22 draws or pulls the tubing over the spreader and then between the several rollers 15, 16 and 17 in an obvious and practical manner.

A careful consideration of the foregoing description in conjunction with the invention as illustrated in the drawings will enable the reader to obtain a clear understanding and impression of the alleged features of merit and novelty sufficient to clarify the construction of the invention as hereinafter claimed.

Minor changes in shape, size, materials and rearrangement of parts may be resorted to in actual practice so long as no departure is made from the invention as claimed.

I claim:

1. A tubular fabric spreader for use in the textile industry comprising a frame including a U-shaped portion, a base rod between the ends of the limbs of said U-shaped portion, said base rod having a cylindrical central portion and reduced end-portions, the reduced end-portions being connected to the adjacent ends of the limbs of the U-shaped portion, and a pair of converging reinforcing rods within the confines of said U-shaped portion and connected at their diverging ends to the base rod and connected at their converging ends to the inner marginal surfaces of the central region of the bight of said U-shaped portion, all portions of said frame being in the same plane.

2. A tubular fabric spreader for use in the textile industry comprising a sturdy openwork frame embodying an elongated U-shaped member, a transverse rod situated between and rigidly secured at its ends to the terminal ends of the limbs of said U-shaped member, the portions of the latter being cylindrical in cross-section and of predetermined diameter, the major portion of said transverse rod being also cylindrical in cross-section but of a diameter greater than the diameter of said portions, and a pair of cylindrical forwardly converging finishing and stabilizing rods the same in diameter as the stated portions, the converging ends of the latter rods being close together and integrated with the inner marginal surface of the bight of said U-shaped member and the rear diverging ends of said rods being spaced inwardly from said limbs and integrated with the forward surface of the cylindrical portion of said transverse rod.

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