No. 701,913. Patented June 10, 1902.

J. DE MINISZEWSKI.

DRAWING FRAME.

(Application filed Oct. 11, 1898.)

(No Model.)

Fig. 1.

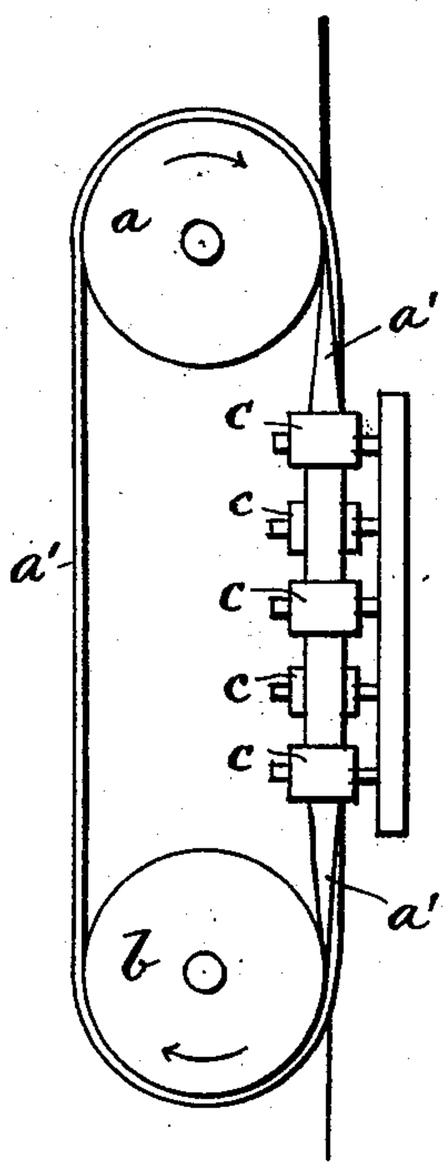


Fig. 2.

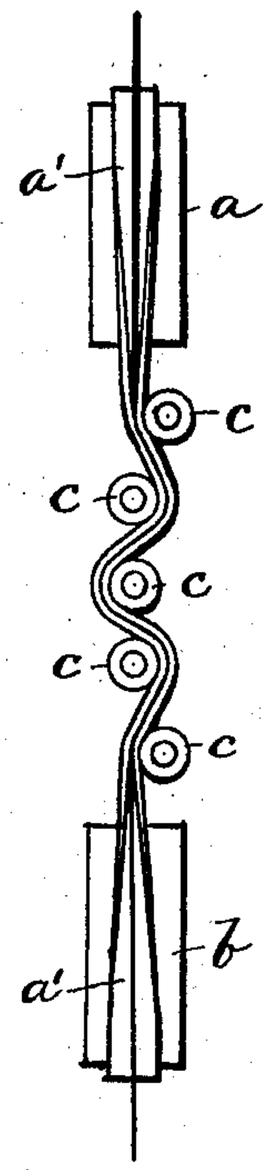
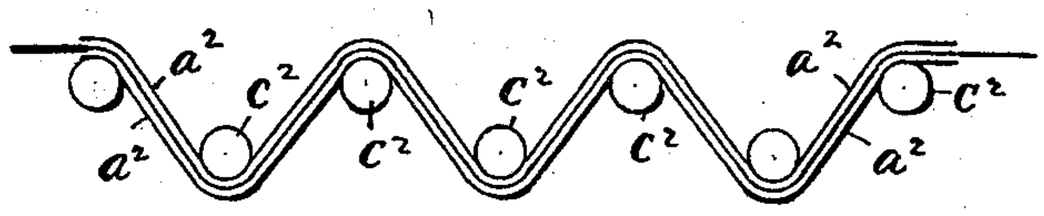


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEF DE MINISZEWSKI, OF LODZ, RUSSIA.

DRAWING-FRAME.

SPECIFICATION forming part of Letters Patent No. 701,913, dated June 10, 1902.

Application filed October 11, 1898. Serial No. 693,243. (No model.)

To all whom it may concern:

Be it known that I, JOSEF DE MINISZEWSKI, a subject of the Emperor of Russia, residing in Lodz, Russia, have invented certain new and useful Improvements in and Connected with Drawing-Frames, of which the following is a specification.

The object of this invention is a new system of drawing textile materials by means of elastic ribbons or bands and is principally applicable to the yarn and thread industry.

The invention consists in the novel construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the appended claim.

In the drawings, Figure 1 is an elevation showing the apparatus constructed according to my invention. Fig. 2 is an edge view thereof. Fig. 3 is a figure somewhat similar to Fig. 2, showing two bands passing between the guide-rollers arranged somewhat differently from those seen in Fig. 2.

Heretofore the drawing of fibers has been effected by several pairs of drawing-rollers, each pair receiving a movement more rapid than the preceding pair. Furthermore, the roving introduced between the cylinders often traverses the whole system in free space—that is to say, it is not supported or guided in its passage between the different pairs of cylinders—which allows the fibers of the material under treatment to detach themselves from the roving. Moreover, the tension exercised on the weak parts of the fibers may cause the rupture of these latter, which are twisted and detached from the roving. This produces inequality in the thickness of the yarn. This method of drawing can therefore only be applied with success to materials of long fiber. The drawing of material with short fibers necessitates the employment of another apparatus known in the trade under the name of self-actors or mechanical winders.

My present invention is applicable to fibers of all kinds and may be described as follows:

In Figs. 1 and 2 I show a method of drawing the roving by means of a single endless elastic band a', which after leaving the cylinder a is folded and guided by rollers c, loose on their axles, and passes over the cylinder b, where it is unfolded again. The roving as it is seen in the drawings is gripped between the folds of the band. The cylinder a has a speed of rotation less than the cylinder b. The fibers are introduced between the folds of the band adjacent to cylinder a, turning at the lower speed, and are gripped between the folds of the band and drawn with the latter proportionately to a difference of speed of the two cylinders. It is evident that the roving being gripped between the folds of the stretched and moving band will be thinned at the coarse parts and drawn at the same time, so that it will leave the apparatus not only drawn to the desired extent, but also equalized in thickness.

Fig. 3 shows another method of drawing, by means of two bands a^2, made to pass between a series of guide-rollers c^2, as shown, and loose on their axles. The degree of evenness and compression of the yarn depends on the number and arrangement of the guide-rollers.

My system of drawing is distinguished by the important characteristic that it permits of the yarn being obtained of any desired thickness or number by means of a single machine.

What I claim, and desire to secure by Letters Patent, is—

In an apparatus of the character described, the combination with two drawing-rollers and an endless elastic band passing around said rollers, of guide-rollers arranged intermediate the drawing-rollers and over which guide-rollers one section of the band intermediate the drawing-rollers passes, the guide-rollers being so arranged relatively to the drawing-rollers as to cause the section of the band passing over them to be folded in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name, this 31st day of August, 1898, in the presence of two subscribing witnesses.

JOSEF DE MINISZEWSKI. [L. S.]

Witnesses:
ALOSOZENIZ,
KAROL BOGDANS.