No. 790,060. PATENTED MAY 16, 1905.

W. B. JEFFERSON.

DRAWING ROLL.

APPLICATION FILED AUG. 1, 1904.

Fig. 1.

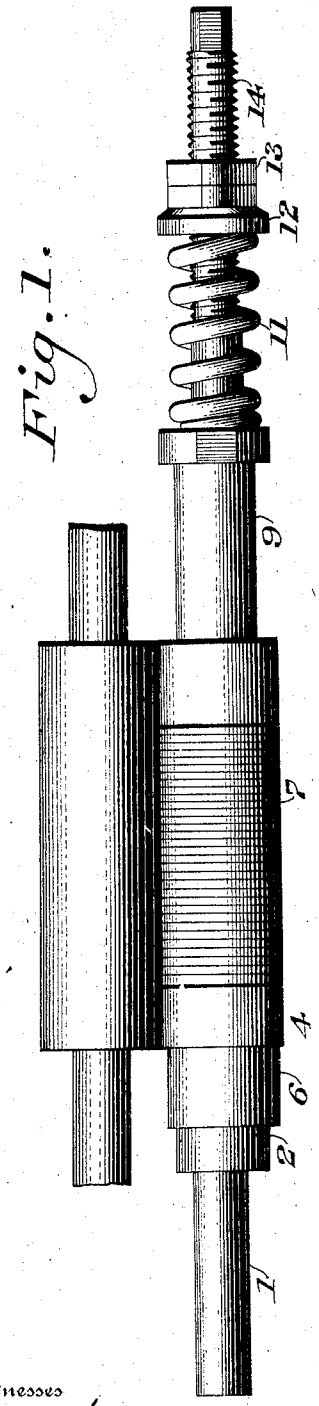


Fig. 4.

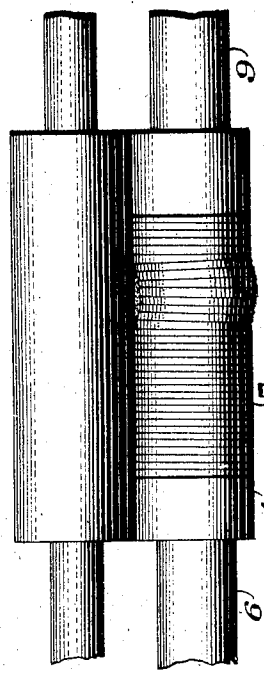


Fig. 2.

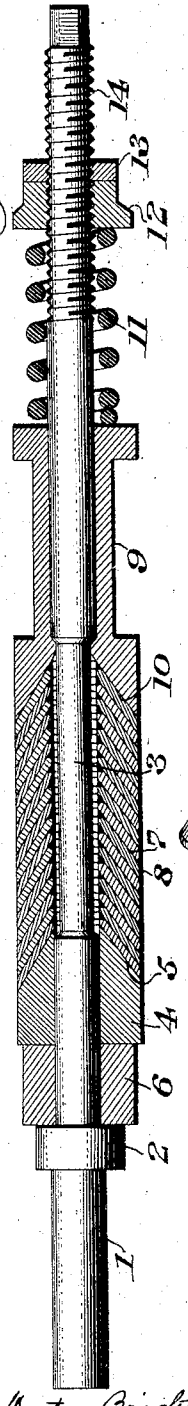
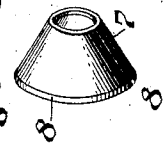


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

WALTER BRIGHT JEFFERSON, OF PHILADELPHIA, PENNSYLVANIA.

DRAWING-ROLL.

SPECIFICATION forming part of Letters Patent No. 790,060, dated May 16, 1905.

Application filed August 1, 1904. Serial No. 218,983.

To all whom it may concern:

Be it known that I, WALTER BRIGHT JEFFERSON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Rolls for Drawing Purposes, of which the following is a specification.

My invention consists of an improvement in rolls for drawing purposes, wherein I provide a resilient surface on said roll whereby the varying thicknesses of the wool is provided for and perfect operation of the drawing results.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figure 1 represents a side elevation of a roll for drawing purposes embodying my invention, showing the drawing-roll. Fig. 2 represents a sectional view thereof. Fig. 3 represents a perspective view of one of the conical shells employed. Fig. 4 represents an elevation showing the roll with the shells in a different position from that shown in Fig. 1.

Similar numerals of reference indicate corresponding parts in the figures.

In drawing-machines of various makes drawing-rolls are employed with, in most cases, fluted surfaces. The said rolls are adapted to be mounted in the different machines in various manners, and as my invention relates solely to the construction of the rolls I have deemed it unnecessary to show the same in position on a machine, as it will be evident that the same can be applied to the various machines now in use.

1 designates a shaft of the roll which is adapted to be mounted in any convenient manner in a machine and supported rigidly with respect to the machine although rotary motion is imparted thereto. 2 designates a collar which is integral with or may be secured to said shaft, which latter is formed with a reduced portion or neck 3 at a suitable point. 4 designates a sleeve mounted on said shaft and provided with the external conical bearing-surface 5, it being noticed that said sleeve 4 is provided with a bore to correspond to the size of the shaft and is held in position thereon, it being further noted that in the drawings I have shown a washer 6, which is interposed between the collar 2 and the said sleeve 4; but this is not necessary in all cases, as, if desired, the said sleeve 4 may bear directly upon said collar 2.

7 designates conical shells which are adapted to be seated one within the other as a nest, the outer shell at one end receiving the conical end 5 of the sleeve 4, it being noted that the inner face of said shells is inclined from end to end, while the exterior edge adjacent the large end of said shells, as 8, is slightly flattened in order that when the same are in position or nested they form a bearing-surface, as shown in the figures.

9 designates a sleeve having an interior conical wearing surface or face 10, which is adapted to receive the exterior shell at the other end, and said sleeve 9 being mounted upon the shaft in such a manner that the said shells 7 are opposite the reduced portion or neck 3 of the shaft, as best understood from Fig. 2.

11 designates a spring bearing on the sleeve 9, and 12 and 13 designate nuts which engage with the threaded portion 14 of the shaft when the parts are in assembled position.

By reason of the construction of the shells and the neck 3 on the shaft the same can move with respect to each other, so that a resilient bearing-surface is provided for the roll at the point where the shells are situated. It will be apparent from the above that by reason of this resilient surface on the roll the act of drawing will be more perfectly accomplished than heretofore, since if the wool will be fed to the rollers, for example, thicker in the middle without the resilient surface the edges of the wool would probably not be acted upon; but in my device the thickness of the wool at the middle will cause the driving-roll to force in the shells at the point where the thickness of the wool is situated—for example, as shown in Fig. 4—and permit the other shells to contact with the edges of the wool, so that the operation will be successfully performed. In the art my roll is sometimes called the "press-roller" and of course is situated in the machine ad-

jacent the driving-roll, as will be understood. It will be evident, further, that the spring 11 normally holds the parts in suitable position with respect to each other and permits the movement of the shells and that by proper manipulation of the nuts 12 and 13 a varying amount of pressure can be placed upon the shells for evident purposes.

It will be evident that various changes may be made by those skilled in the art which will come within the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device of the character described, a shaft, interfitting shells mounted thereon and adapted to bodily movement with respect to said shaft.

2. In a device of the character described, a shaft, conical shells mounted thereon and adapted to bodily movement laterally with respect to said shaft.

3. In a device of the character described, a shaft, a neck on said shaft, conical shells suitably supported with respect to said shaft adjacent said neck and resilient means for holding said shells in position.

4. In a device of the character described, a shaft, a plurality of shells of larger internal diameter than the exterior of said shaft and normally spaced therefrom, and spring means disposed axially of said shaft, for retaining the shells concentric with said shaft.

5. In a device of the character described, a shaft, a plurality of rigid shells normally concentric therewith and normally spaced therefrom, and means disposed axially of said shaft for yieldingly retaining said shells in concentric position.

6. In a device of the character described, a shaft, a plurality of shells about said shaft and normally spaced therefrom, and elastic retaining means for said shells, said means being disposed axially of said shaft.

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Witnesses:
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