No. 663,925.

Patented Dec. 18, 1900.

M. J. NORDMANN.

REEL FOR YARN.

(Application filed Mar. 30, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1

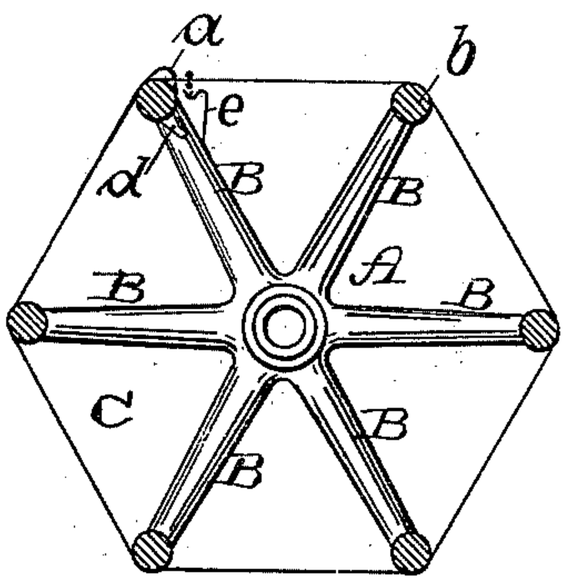


Fig. 2

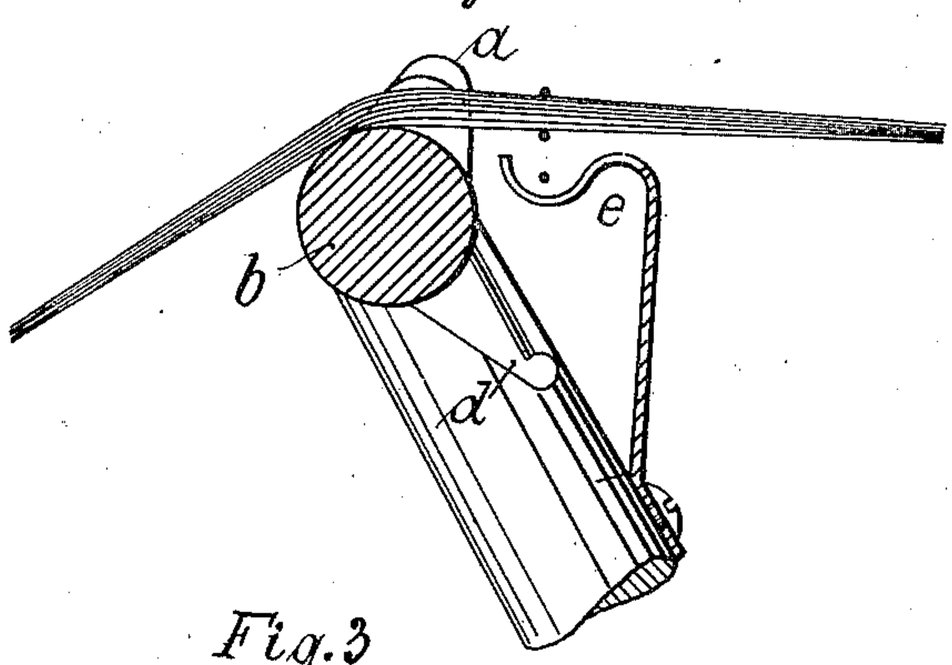


Fig. 3

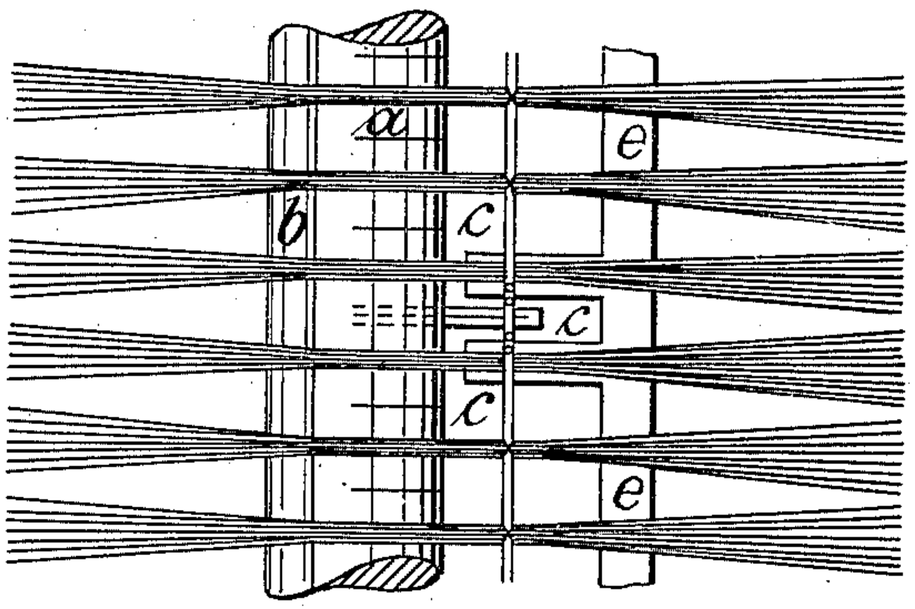
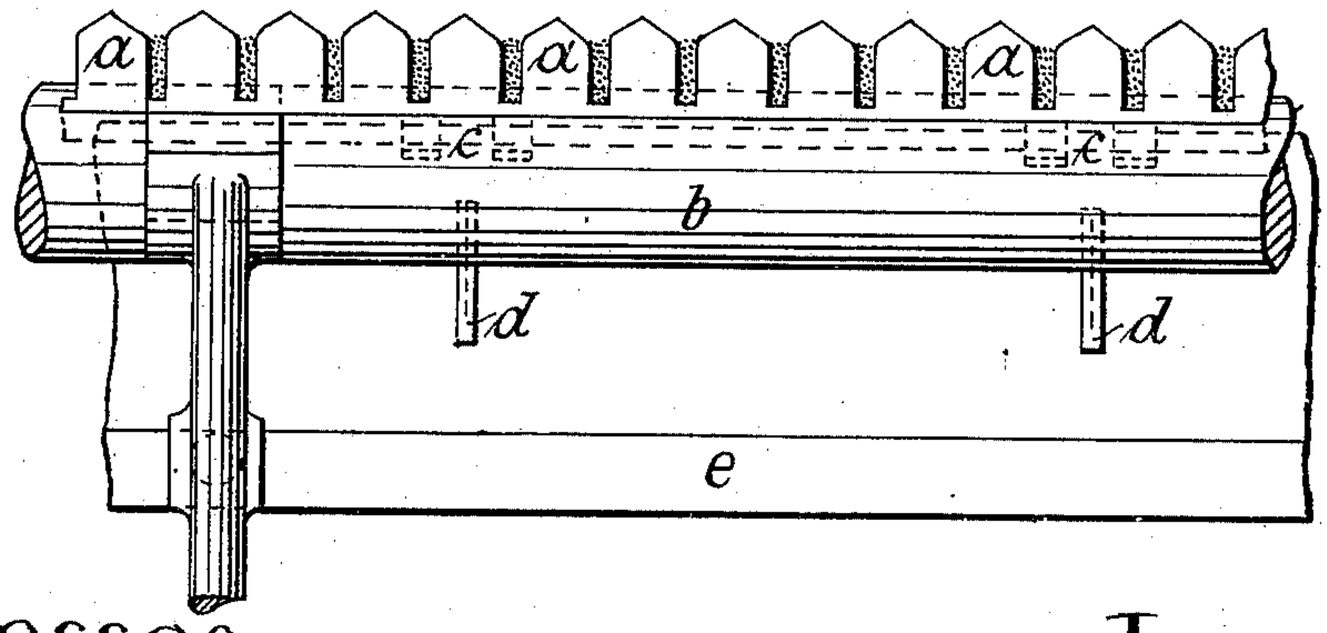


Fig. 4



Witnesses.
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No. 663,925. Patented Dec. 18, 1900.

M. J. NORDMANN.

REEL FOR YARN.

(Application filed Mar. 30, 1900.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 5

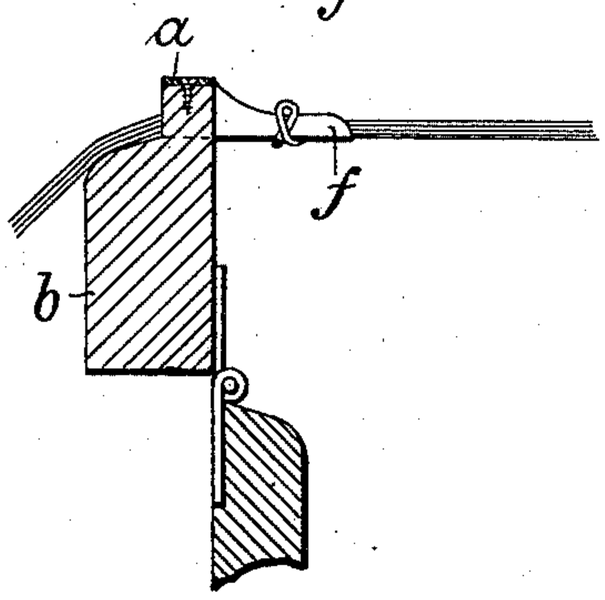


Fig. 6

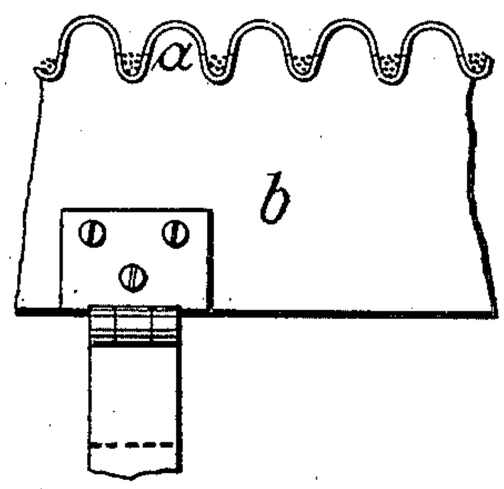
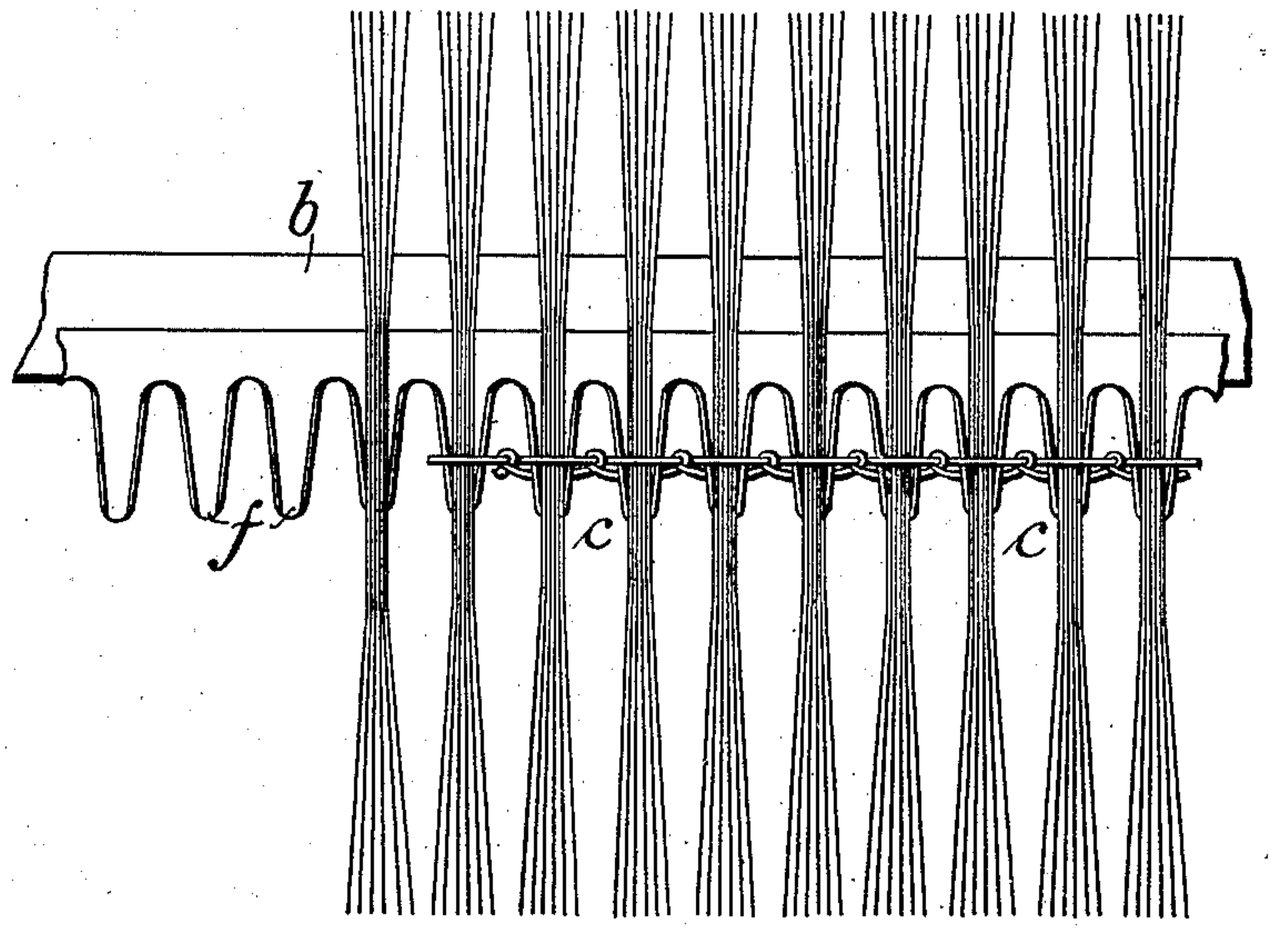


Fig. 7



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UNITED STATES PATENT OFFICE.

MAX JULIUS NORDMANN, OF DRESDEN, GERMANY.

REEL FOR YARN.

SPECIFICATION forming part of Letters Patent No. 663,925, dated December 18, 1900.

Application filed March 30, 1900. Serial No. 10,830. (No model.)

To all whom it may concern:

Be it known that I, MAX JULIUS NORDMANN, a citizen of the Kingdom of Saxony, residing at Dresden, in the Kingdom of Saxony, German Empire, have invented certain new and useful Improvements in or in Connection with Reels for Hanking or Skeining Yarns; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

In the mechanical hanking or skeining of yarn wound closely upon a reel it has been found difficult without injuring the yarn to catch and draw out between the closely-placed groups of yarn the thread necessary for binding the skeins or hanks which is led inside the reel to accomplish the binding on the outside. It is also difficult to hold the widely-spread out yarn in the form of a bundle at the place where the binding-thread comes, and after hanking and when the hanked yarn is to be removed there is the further difficulty of separating the hanks the skeins of which are held together by the longitudinal thread fastening.

This invention has for its object to remove the above difficulties and it is attained by the means shown in the accompanying drawings as applied to a reel.

Figure 1 is a side view of the invention; Fig. 2, a detail side view on an enlarged scale; Fig. 3, a plan, and Fig. 4 a front view. Figs. 5, 6, and 7 show a modified form of construction.

Referring to Figs. 1 to 4, A represents the reel, provided with a series of longitudinal reel-bars *b*, each of which is supported upon the outer ends of the bars B, but are made separate therefrom. Each one of these bars *b* is pivoted in the end C of the reel and has a turning movement upon its own axis, so as to move the combs and the knives into operative positions when so desired. A movable comb *a* is applied to one of the reel-bars *b* along its reeling-surface. The yarn-threads lying together on the other reel-bars *b* are between the comb-teeth reeled over one another to form yarn groups, so that adjacent to the comb openings *c* are produced on the reel, through which openings the thread-seizing apparatus moved along and outside the reel can for tying purposes draw out the under thread from the inside of the reel without touching the yarn. The reel-bar *b* being pivoted in the ends of the reel and carrying the comb *a* is adapted to turn with said comb, so that after completion of hanking the comb may be moved away from the reeling-surface, and thus permit the convenient removal of the yarn from the outside and now unobstructed surface of the reel-bar *b*. In like longitudinal arrangement a series of knives *d* is so attached to and movable with said reel-bar *b* near the binding-thread that each of the knives comes between two hanks and into an opening *c*. The knives being brought into an operative position after completion of hanking cut the binding or fastening, and thus separate the hanks from one another. This being done, the set of knives is turned out of the way of the reel-surface, whereupon the mechanically skeined or hanked yarn can be slid off the reel.

In order to permit the seizure of the under thread at any desired point in the yarn-openings *c*, there is attached to the reel a set of hooks or forks *e*, on which the under thread rests while the knives are in the backward position out of the way of the reel-surface and yarn. These supporting-hooks are formed as shown in Figs. 2 and 3, and consist of metallic plates fastened at their inner ends to the arms B and which are bent at their outer ends, as shown, and which ends are slotted, so as to allow the knives to pass up through the slots after the under thread has been seized and used for skeining and has to be cut.

In order to prevent the disturbance as much as possible of or injury to light and spun silk yarns during the skeining or hanking operation, the comb-teeth are extended so far as to present the appearance of a row of grooved beaks *f*, Figs. 5 and 7, in which the frail spun fluff-covered material is located, while the thread-fastening apparatus lays the binding-threads around them. These supporting-beaks *f* are then, just before drawing the skeined or hanked material from the reel, drawn backward out of the binding-thread loops by turning the movable reel-bar, leav-

ing said loops by themselves to inclose the skeins.

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

1. In a reel, the bars *b* adapted to be turned partially around, and combs secured thereto, combined with knives applied to the bar, and which knives are brought into an operative position by partially turning the bars at the same time that the combs are moved out of the way, substantially as described.

2. In a reel, the bars *b* pivoted in or upon their supports so as to be turned partially around, combs *c* applied to their surfaces, and the knives secured to opposite sides of the bars from the combs, combined with the hooks or forks *e*, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

MAX JULIUS NORDMANN.

Witnesses:
EMIL REICHELT,
PAUL ARRAS.