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M. MÜLLER.

APPARATUS FOR MANUFACTURING YARNS OR THREADS FROM
SHORT FIBERS.

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NO MODEL.

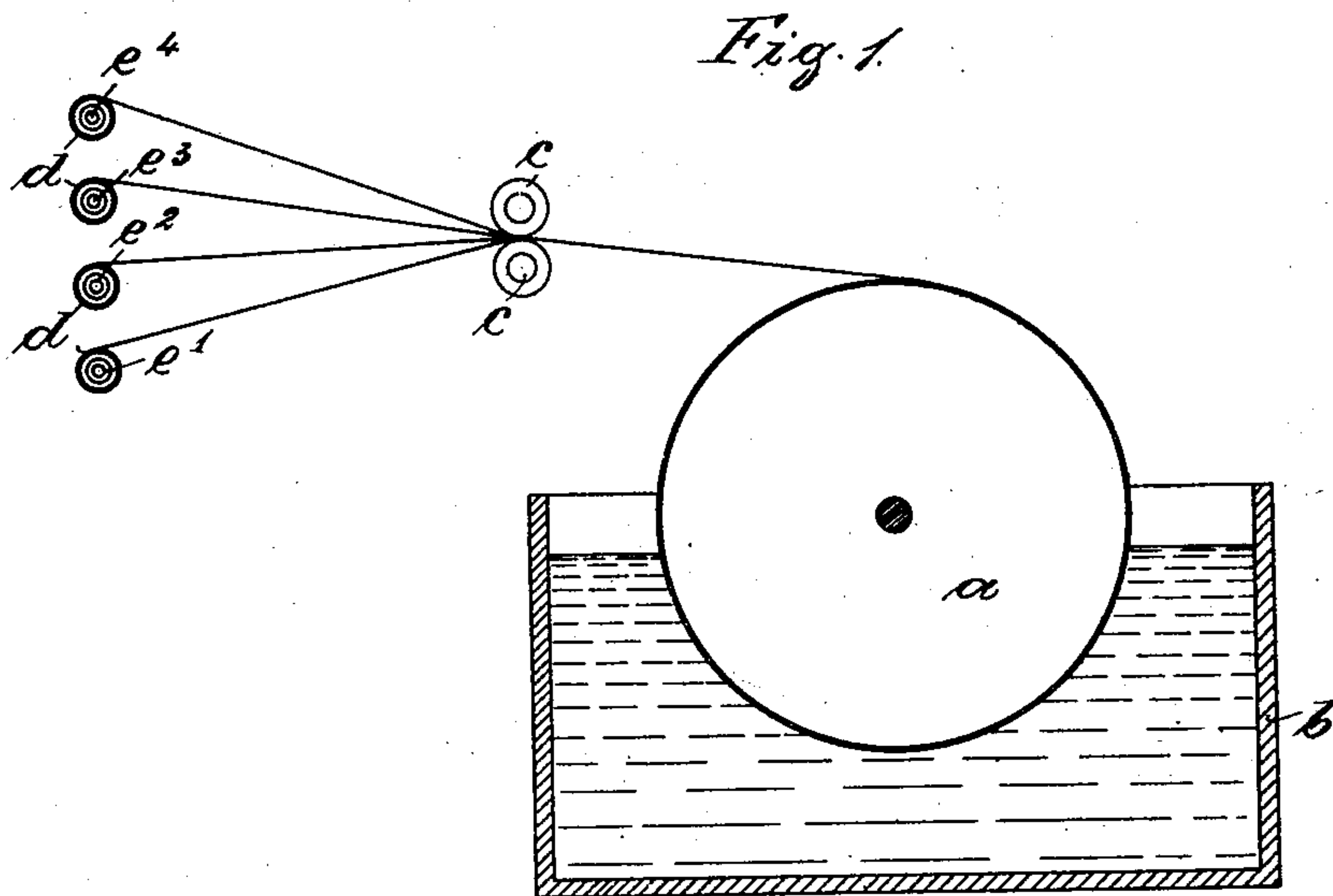
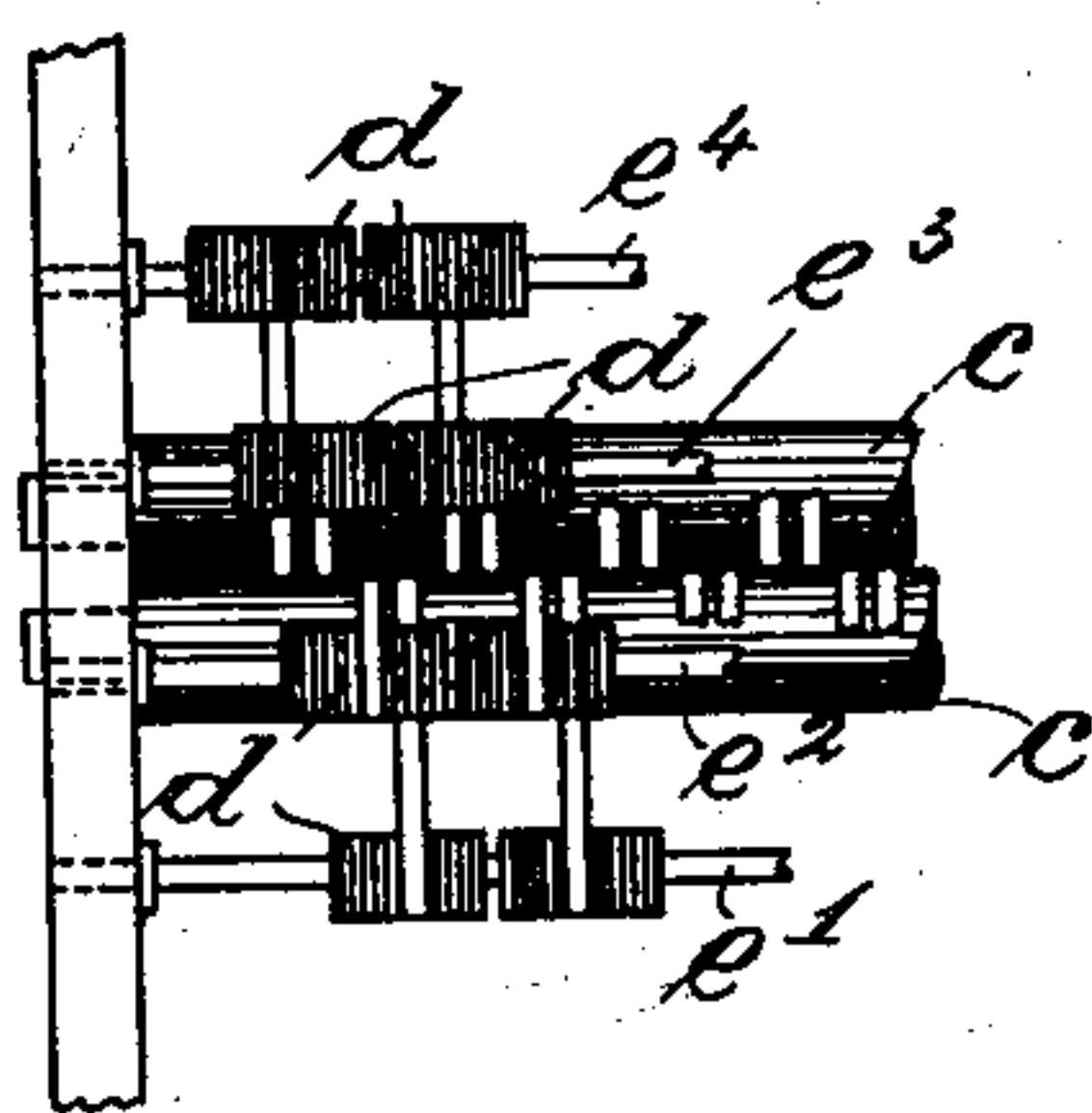


Fig. 2.



Witnesses:

Paul Wollenberg.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR MANUFACTURING YARNS OR THREADS FROM SHORT FIBERS.

SPECIFICATION forming part of Letters Patent No. 747,465, dated December 22, 1903.

Application filed September 22, 1903. Serial No. 174,236. (No model.)

To all whom it may concern:

Be it known that I, MAX MÜLLER, a subject of the King of Prussia, German Emperor, and a resident of Altdamm, near Stettin, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Apparatus for Manufacturing Yarns or Threads from Short Fibers, of which the following is an exact specification.

My invention relates to improvements in apparatus for manufacturing yarns and threads from short fibers, particularly paper-pulp, asbestos, and the like, and more especially to a device by means of which it is attained that the single strips of the fibrous material can be wound up each upon a special bobbin or roller and that the whole breadth of the machine can be utilized for the manufacture of the fiber band.

For manufacturing yarn or threads from short fibers, as paper-pulp and the like, the small fiber felt bands manufactured upon a paper-machine or in any other convenient way have been brought between rollers moving to and fro in the direction of their axis in order to roll the bands, so as to form a round thread where after these rolled threads were stored up in revolving boxes and afterward brought to the spinning-machine. In other constructions of machines for the manufacture of yarns and threads all the fiber felt bands were wound up upon a collecting-roller and were afterward drawn off from this roller by the spinning-machine. By the use of these collecting-rollers great disadvantages arise, which consist, especially, in the tearing of the single fiber felt bands. In order to do away with these disadvantages, I provide my present invention, according to which no collecting-roller is provided, but each band is wound up separately. The winding up of these bands is effected by arranging rollers or bobbins, which move to and fro in the direction of their axis, or by arranging suitable guides for the bands, which guides move to and fro. In machines in which the single felt bands leaving the sieve are situated, one closely at the side of the other one, the single bobbins for taking up the bands can naturally not be situated one at the side of the other one on account of these bobbins being broader than the fiber bands, and it is therefore necessary

to arrange the bobbins in different planes. In the most cases it will be sufficient to arrange the bobbins in four different planes— for instance, to arrange the bobbins upon four bars situated in different height, so that the first, fifth, ninth, and so on, bands are rolled up upon the first bar, the second, sixth, tenth, and so on bands upon the second bar, the third, seventh, eleventh upon the third bar, and the fourth, eighth, and twelfth upon the fourth bar. All the bars or the bobbins situated upon the same must naturally move to and fro. By arranging the bobbins in the manner described above the bobbins can be made much broader, and consequently the length of the thread wound upon each bobbin can be augmented, hereby diminishing the losses during the spinning. By the felt bands being wound up upon separate bobbins a tearing of the bands is avoided contrary to the construction of machines in which a collecting-roller is provided, in which machines the separation of the single bands takes place after the same leaving the collecting-roller and passing over to the spinning-machine. The single bobbins can after being filled be directly brought to the spinning-machine.

In order to make my invention more clear, I refer to the accompanying drawings, in which—

Figure 1 is a diagrammatic cross-section of the machine. Fig. 2 is a detail view of the same.

In the drawings, *a* is a round sieve of a paper-machine. All detail parts of this machine have been omitted for the sake of clearness.

b is a pulp-reservoir.

c represents guide-rollers, and *d* represents bobbins for taking up the single bands. These bobbins are arranged upon four bars *e' e² e³ e⁴*. These bars are provided with means for rotating the same and for simultaneously moving the same to and fro.

The effect of the apparatus is as follows: Upon the round sieve *a* of the paper-machine, which round sieve is situated in the pulp-reservoir *b*, fiber felt strips are manufactured in any convenient well-known way. The single bands pass through the guide-rollers *c* to the bobbins *d*, and it will be seen from Fig. 2 that the first, fifth, ninth, &c., second, sixth, tenth,

&c., the third, seventh, eleventh, &c., and the fourth, eighth, twelfth, &c., bands are wound up upon bobbins situated upon the same bar.

Having thus fully described the nature of my invention, what I desire to secure by Letters Patent of the United States is—

1. In an apparatus for manufacturing yarns and threads from fibers, the combination of a device for manufacturing several fiber felt bands with a separate bobbin for each band, and means for moving the bobbins or the guides for the bands to and fro in the direction of the longitudinal axis of the bobbins, substantially as described and for the purpose set forth.

2. In an apparatus for manufacturing yarns

and threads from short fibers, the combination of a device for manufacturing several fiber felt bands, with a separate bobbin for each band, the bobbins being situated in different planes, and means for moving the different sets of bobbins or the band-guides for the same to and fro in the direction of the longitudinal axis of the same, substantially as described and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MAX MÜLLER.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.