

E. BOOS.
WINDING DRUM FOR THREADS.
APPLICATION FILED MAR. 25, 1912.

1,052,212.

Patented Feb. 4, 1913.

2 SHEETS—SHEET 1.

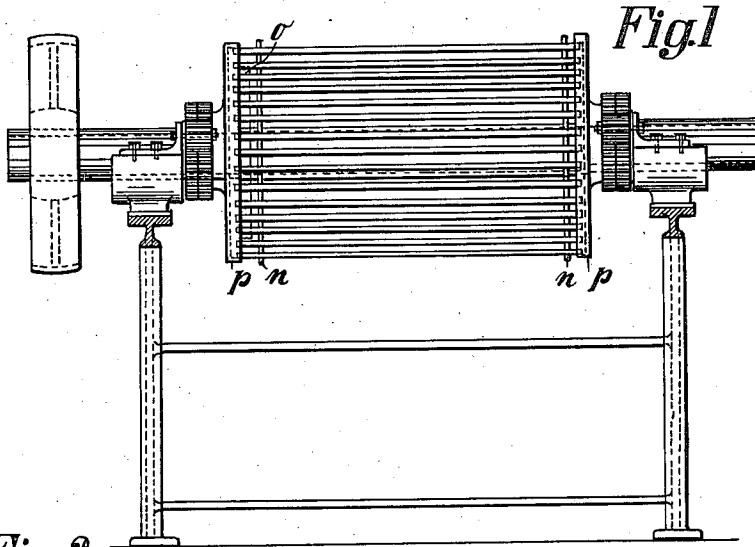


Fig. 1

Fig. 2

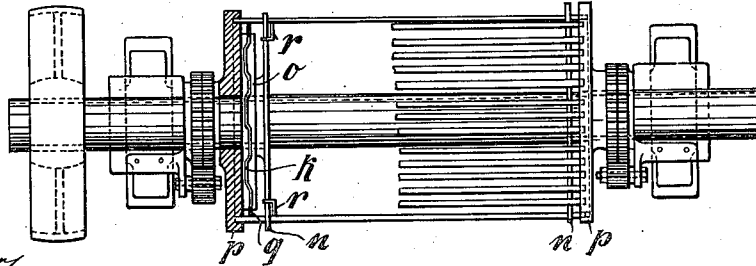


Fig. 7

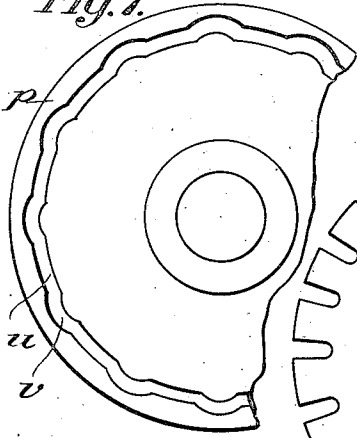
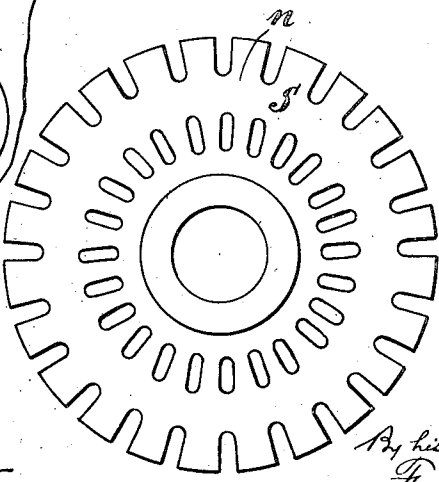


Fig. 6



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2 SHEETS-SHEET 2.

Fig.3

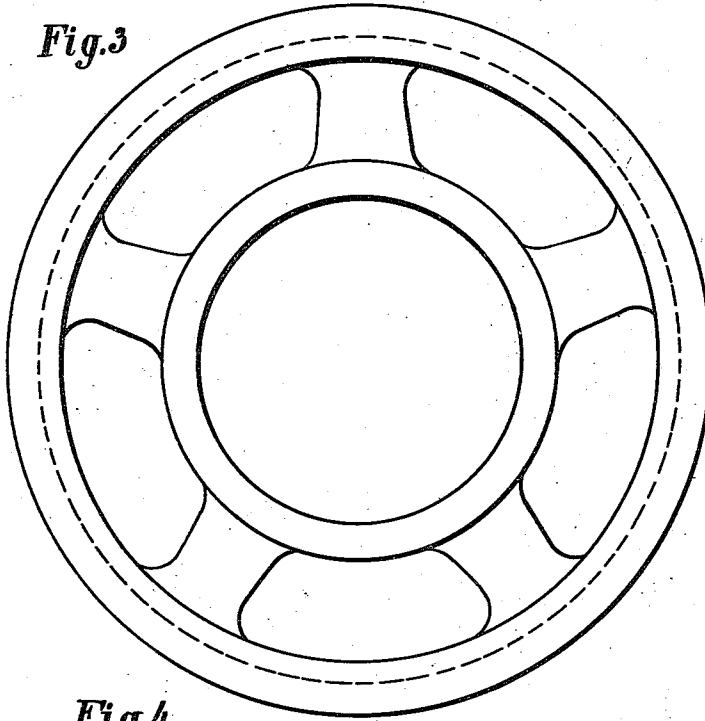


Fig.4

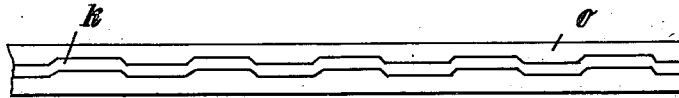
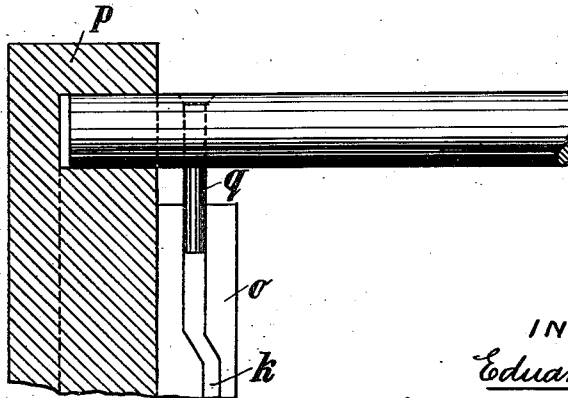


Fig.5



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UNITED STATES PATENT OFFICE.

EDUARD BOOS, OF OBERBRUCH, GERMANY, ASSIGNOR TO VEREINIGTE GLANZSTOFF-FABRIKEN A.-G., OF ELBERFELD, GERMANY.

WINDING-DRUM FOR THREADS.

1,052,212.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Original application filed February 18, 1911, Serial No. 609,310. Divided and this application filed March 25, 1912. Serial No. 685,905.

To all whom it may concern:

Be it known that I, EDUARD BOOS, a subject of the Grand Duke of Hesse, residing in Oberbruch, Germany, have invented certain new and useful Improvements in Winding-Drums for Threads, of which the following is a specification.

The present invention relates to an improvement in winding drums described in my application, Serial No. 609,310, Feb. 18, 1911, of which the present application is a division, on which drum a thread is automatically and uninterruptedly fed laterally, the thread being led to the drum at one end always in the same plane, then running around it in a spiral line, and, finally, at the other end of the drum running off of it always in the same plane. The surface of the winding drum is made up of two groups of segments or rods, which are moved radially and axially of the drum, and which thereby act to alternately grasp the wound-up thread and shift the several convolutions thereof together side-by-side longitudinally of the drum, so that the thread runs continuously off one end of the drum as set forth above. The axial movement of the segments or rods is effected in a novel manner by means of special guiding pins attached thereto, running in a guide plate having special peripheral curved grooves therein.

In the accompanying drawings a construction of the thread-winding drum is illustrated by way of example.

Figures 1 and 2 show a front elevation, and a top plan view, respectively, of the apparatus, while Figs. 3 to 7 illustrate details in elevation and section. Fig. 3 shows the guide-plate for effecting the axial movement; Fig. 4 shows the arrangement of the curved grooves of said plate. Fig. 5 shows, on an enlarged scale, the engagement of one of the drum rods in the grooves in the two adjacent guide-plates, by means of which the axial and radial movements of the rods are effected. Fig. 6 shows one of the guide disks provided with radial guide-slots. Fig. 7 shows one of the guide-plates provided with grooves having radially extending curves therein.

The rods of both groups of rods are moved in the grooves of the end guide-plates or disks *n*, by means of disks *p* having

guide grooves *u* with radially extending curves *v* therein in such a manner that when the radial movement of one group of rods is completed, the rods of the other group are in their inner position ready to begin their radial movement. The guide-plates *p* are provided with grooves having radially extending curves for this purpose. For accomplishing the axial movement of the drum rods, special disks *o* (Figs. 3 to 5) are attached to the guide disks *p*. The disks *o* are provided on their circumference with a curved groove *k*, in which are guided pins *q* attached to the drum rods. By the arrangement of a special guide-disk *o* for producing the axial movement of the rods wear on the heads of the rods is lessened and their operation made more exact. In order to prevent a rotation of the rods on their axes, they are provided with bent-pins *r* (Fig. 2) which slide in small slots *s* in the disk *n* (Fig. 6).

What I claim is:

1. A winding drum for threads, comprising two circumferential groups of rods or segments, and means for moving each group of said rods radially and axially of the drum whereby each group alternately grasps the wound-up thread, shifts it axially and releases it.

2. A winding drum for threads, comprising two circumferential groups of rods or segments, means for preventing turning of said rods, and guide-disks having curved grooves therein for moving said rods radially and axially of the drum, whereby each group alternately grasps the wound-up thread, shifts it axially and releases it.

3. A winding drum for threads, comprising two circumferential groups of rods or segments, radial guides, and means upon said rods engaging said guides for preventing turning of said rods, and guide disks having curved grooves therein for moving said rods radially and axially of the drum, whereby each group alternately grasps the wound-up thread, shifts it axially and releases it.

4. A winding drum for threads, comprising two circumferential groups of rods or segments, guide disks having curved grooves therein for moving said rods radially and axially of the drum, whereby each group alternately grasps the wound-up thread,

shifts it axially and releases it, said guide disks for producing the axial movement of said rods having curved peripheral grooves therein and said rods having pins engaging 5 in said peripheral grooves. guide disks *o* for producing the axial movement of said rods having curved peripheral grooves *k* therein and said rods having pins 15 *q* engaging in said peripheral grooves.

5. A winding drum for threads, comprising two circumferential groups of rods or segments, guide disks *n*, *p* and *o* having curved grooves therein for moving said rods 10 radially and axially of the drum, whereby each group alternately grasps the wound-up thread, shifts it axially and releases it, said

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

EDUARD BOOS.

Witnesses:

HENRY QUADFLIEG,
JOSEPH GOSSENS.