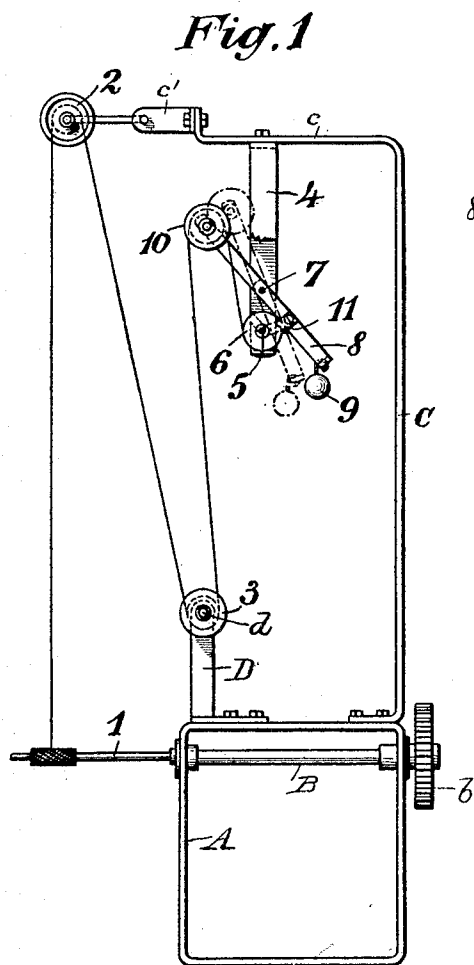
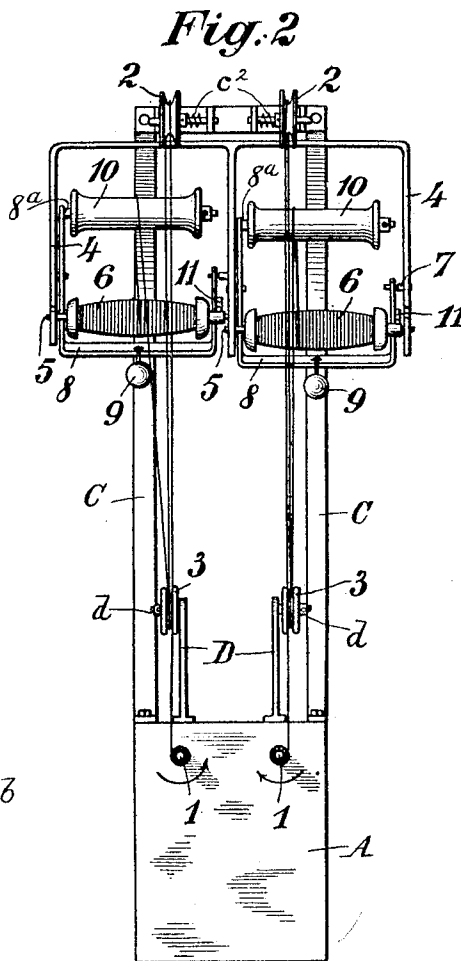


920,185.

Patented May 4, 1909.



Witnesses:
Jesse N. Sutton.
B. W. Rommiers

Inventor:
Jakob Schärer-Nussbaumer
by Henry Orth
att'y

UNITED STATES PATENT OFFICE.

JAKOB SCHÄRER-NUSSBAUMER, OF ERLENBACH, NEAR ZURICH, SWITZERLAND.

WINDING AND SPOOLING APPARATUS.

No. 920,185.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed October 22, 1908. Serial No. 459,087.

To all whom it may concern:

Be it known that I, JAKOB SCHÄRER-NUSSBAUMER, a citizen of the Republic of Switzerland, residing at Erlenbach, near Zurich, Switzerland, have invented certain new and useful Improvements in Winding and Spooling Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

In winding and spooling thread (which term I here employ in its general sense, intending therefore to include yarn) from bobbins, reels, or similar thread-delivering contrivances (hereinafter briefly referred to as bobbins), it frequently happens that owing to knotting, tangling, or jamming of the thread, or, in the event of the bobbins being wound in bulged form, owing to variation in diameter, the pull on the thread is temporarily increased, whereupon on the cause of such abnormal pull being overcome, the bobbin has the tendency to "race", that is rotate in advance of the thread. Attempts have been made to remove this drawback by the provision of spring-mounted rollers, over which the unwound thread is guided. Such arrangement, however, is useless in the event of the thread breaking.

For the purpose of providing regulation even in the event of breakage of thread, I furnish for the bobbin an oscillating appliance which is influenced by the pull of the thread and serves to brake the bobbin, the braking action, however, being overcome again by the pull of the thread. Thus in the event of a sudden diminution of tension after increased pull of the thread, and also on cessation of the pull altogether, the appliance exerts a braking action on the bobbin and thus prevents racing of the latter.

One form of construction of the invention is illustrated in the accompanying drawing, in which—

Figure 1 is a side elevation, and Fig. 2 a front elevation of a duplex spooling machine. In the following description only one of the two devices shown will be considered, as both act in precisely the same manner.

In the construction shown in said drawings A designates a suitable bolster in which

is journaled a shaft B having fixed to and extending axially therefrom a spindle 1 for the winding spools. The shaft is driven by any suitable means such as a gear wheel *b* fixed on one end and adapted to mesh with and be driven by a similar gear, not shown, on a suitable motor.

Mounted on and extending above the bolster A is a standard C having an arm *c*, projecting at right angles thereto, to which latter is secured a bracket *c'* in which is journaled a compensating pulley 2 yieldingly held against lateral movement by a spring *c''*. A short standard D is mounted on the bolster A parallel to the standard C and has a horizontal pin *d* fixed in its upper end on which is journaled a pulley 3.

Bolted or otherwise connected with and depending from the arm *c* is a framing in the form of a yoke comprising two parallel arms 4 in the lower ends of which is journaled an axle 5 carrying a thread containing member 6 fixed thereto. Projecting from the inside of the arms 4 above the axle 5 are pins 7 on which is pivoted a cradle 8. On the end of the latter nearest to the standard C is suspended a weight 9 adapted to normally hold the opposite end of the cradle elevated above the plane of the thread container 6. In said elevated end is fixed a pin 8^a projecting parallel to the axle 5 serving as an axle for a roller 10. On one side of the cradle 8 is fixed a projection 11 adapted to serve as a brake shoe for the axle 5, said projection being fixed at a distance from the axis of pin 7 to swing in the arc of a circle which if struck from said axis as a center would pass through the axis of axle 5. The engaging face of the projection is preferably recessed or concaved to conform to the periphery of the axle for the purpose of increasing the size of the engaging surface of the shoe. The thread runs from the container 6 over roller 10, pulleys 3 and 2 to the spool spindle 1. If, now, at the bobbin 6 the pull of the thread should increase—for instance, by reason of knots or tangles, or because of the thread catching on the bobbin, or, in the case of a bulge bobbin, as shown, owing to the thread running from the middle toward the one end—the bobbin, on sudden disappearance of the cause of the increased draft, or breaking of the thread, will race forward in consequence of the moment of inertia. The recessed projection 11, however, will by the action of the weight 9, now bear against the

axis 5 and exert a braking action upon it, until the extent of draft of the thread is again normal, or until the thread has been pieced-up again.

5 Since the braking takes place directly at the bobbin, it is possible to very greatly increase the speed of the latter. The cradle 8 may obviously also be so constructed that both its limbs exert a braking action on the bob-
10 bin or its axis.

It is clear that the same braking device can also be employed for reels or the like, as well as bobbins.

15 Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. In a winding or spooling apparatus in which is combined a framing, a thread con-
20 taining member mounted therein, a rockable support pivoted in the framing, a thread guide mounted on the support parallel to the thread containing member, said support adapted to serve as a brake for the thread
25 containing member.

2. In a winding or spooling apparatus in which is combined a framing, a rotary spindle journaled therein, a bobbin fixed on the spindle, a gravitating support pivoted in the

framing, having an arm extending parallel 30 to the spindle adapted to form a thread guide and means on said support forming a brake for the spindle.

3. In a winding or spooling apparatus, in combination, framing, a bobbin mounted 35 thereon, a gravitating cradle pivoted to the framing, whose one limb constitutes a brake for the bobbin, and a thread-roller mounted on the cradle above its pivotal points, sub-
stantially as described. 40

4. In a winding or spooling apparatus, in combination, framing, a bobbin mounted 45 thereon, a U-shaped cradle having its vertical arms pivoted to the framing above the bobbin and located contiguously to the axis 45 of the latter, and its horizontal loaded end located below the level of the bobbin, and a thread-roller mounted on the cradle above said bobbin and parallel with it, substan-
tially as described. 50

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

JAKOB SCHÄRER-NUSSBAUMER.

Witnesses:

HERMANN GRAF,
JOSEPH SIMON.