

(No Model.)

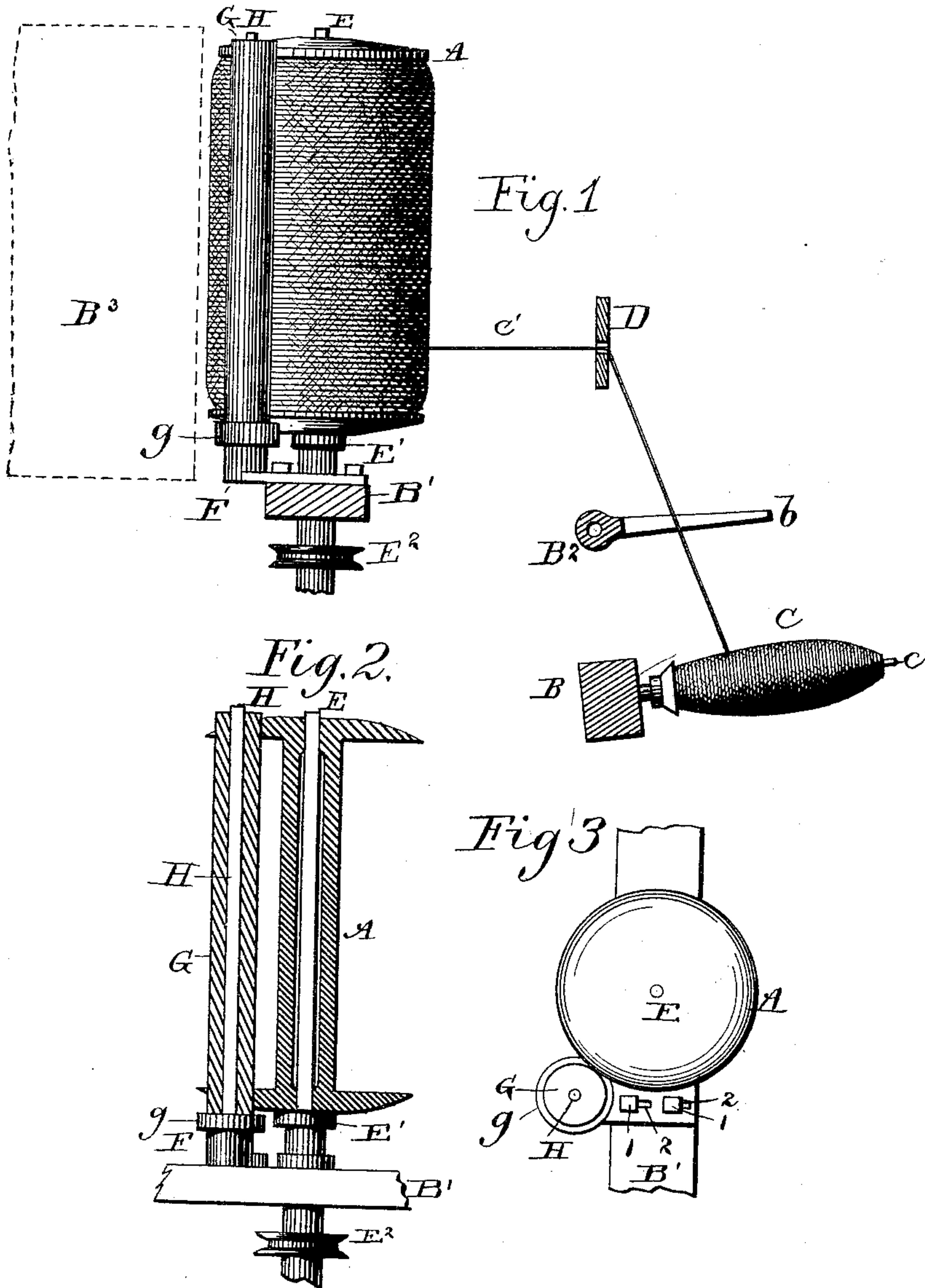
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MACHINE FOR WINDING THREAD OR YARN UPON BOBBINS.

No. 407,124.

Patented July 16, 1889.



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# UNITED STATES PATENT OFFICE.

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## MACHINE FOR WINDING THREAD OR YARN UPON BOBBINS.

SPECIFICATION forming part of Letters Patent No. 407,124, dated July 16, 1889.

Application filed April 1, 1889. Serial No. 305,643. (No model.)

*To all whom it may concern:*

Be it known that BENJAMIN SAUNDERS, formerly a citizen of the United States, residing at Nashua, in the county of Hillsborough and State of New Hampshire, deceased, did invent a new and useful Improvement in Machines for Winding Thread or Yarn Upon Bobbins, of which the following is a specification.

10 The object of said improvement is to give uniformity of size to the filled bobbins, thus giving approximately equal lengths of thread or yarn upon the bobbins. This object is attained by the mechanism illustrated in the  
15 accompanying drawings, in which—

Figure 1 is a sectional side view of enough of a winding-machine to illustrate the invention. Fig. 2 is a detail view showing the bobbin and guard-roll in section and their  
20 supporting devices in elevation, and Fig. 3 shows a plan view of some parts shown in Fig. 1.

Similar letters refer to similar parts throughout the several views.

25 In the drawings, B B' B<sup>2</sup> represent sections of the frame which supports the various parts of a spooling device. The part B supports the quill from which the yarn or thread is wound. The part B' supports the bobbin-  
30 spindle and the stand F. The part B<sup>2</sup> supports the thread-clearer.

A is a bobbin placed loosely upon a spindle E, and normally revolving with said spindle through frictional contact with the support-  
35 ing-flange on the spindle E'. Said spindle receives rotation through a belt acting upon the pulley E<sup>2</sup>. The thread C', which is to be wound upon the bobbin A, is usually taken from the quill C, placed loosely upon a spin-  
40 dle C<sup>2</sup>, which is held by frame B. The thread C' usually passes through the clearer b and the guide D, and is wound upon the bobbin through force of its frictional contact with the spindle E.

45 The device, as so far described, is old, and usually a spooling-frame will have a hundred duplications of these parts described.

It must be obvious that the unequal resistance with which the thread or yarn has to  
50 contend, owing to the varied quality of the yarn, in passing from the quill through the

clearer and guide will cause such a difference in the revolutions of the various bobbins and the time required for filling them as to result in different amounts of thread wound in a  
55 given time upon the various bobbins, so that practically there is no attempt at uniformity in the time required for filling the bobbins. An attendant removes the bobbins as they fill, one at a time, and replaces them by empty  
60 ones. Some means of stopping the revolution of the bobbin or of breaking the thread when the thread has accumulated to the desired amount is desirable. To this end many man-  
65 ufacturers place a box, which they use for holding empty bobbins, in close proximity to the revolving bobbins, as indicated by dotted line B<sup>3</sup>. This box imperfectly accomplishes the purpose, roughening and fraying the  
70 threads and being otherwise objectionable. The device shown accomplishes the desired end. The stand F is placed beside the bobbin A, upon the rail B', which supports the  
75 spindle E. Projecting from this stand is the spindle H, and upon it is placed an idle-roll G, having a flange g at its lower part adapted by projecting below the flange of the bobbin to prevent the roll from being lifted from its  
80 spindle. The stand F is made adjustable in relation to the bobbin by means of bolt 1 and slot 2, so as to enable it to vary its capacity for holding thread or yarn.

It is obvious that when thread has been wound so as to fill the bobbin, and it begins to press against the roll, the roll will not  
85 present a rigid resistance, but will revolve with the bobbin; that it will not roughen or fray the thread, and that when the resistance to revolution caused by filling the space between the bobbin and roll becomes above a  
90 certain degree the bobbin will stop, allowing the spindle to keep its revolution. In other words, the resistance caused by the pressure of the idle-roll will become greater than the friction from the spindle E, and thereby  
95 cause the bobbin to cease revolving. An operator notes the stopping of the bobbin, replaces it with an empty one, and the work of winding thread goes on.

Having described the invention, the claims  
100 are as follows:

1. The combination of a spindle adapted to

rotate a receiving-bobbin by frictional contact, with an idle roll placed in position near the spindle and adapted to press upon the thread and prevent the further rotation of the  
5 bobbin when the thread has accumulated upon the bobbin to the desired amount.

2. The combination of a spindle adapted to rotate a receiving-bobbin by frictional contact with a stand near the spindle, provision  
10 for adjusting the position of said stand, and

an idle-roll carried by said stand and adapted to press upon the thread and prevent the further rotation of the bobbin when the thread has accumulated upon the bobbin to the desired amount.

Attest: LOUISA A. SAUNDERS,  
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