

(No Model.)

R. S. COOKSON.
BOBBIN FRAME FOR LOOMS.

No. 263,319.

Patented Aug. 29, 1882.

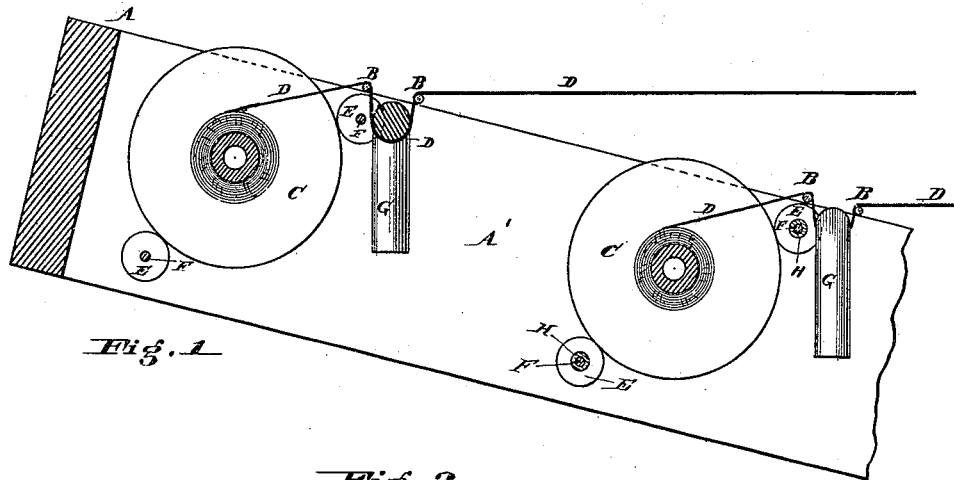


Fig. 1

Fig. 2

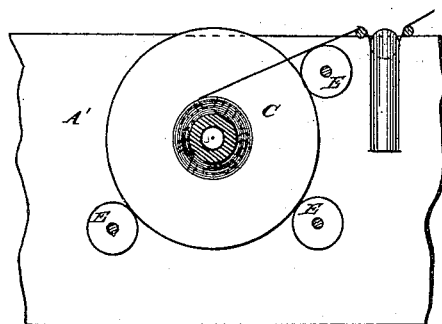
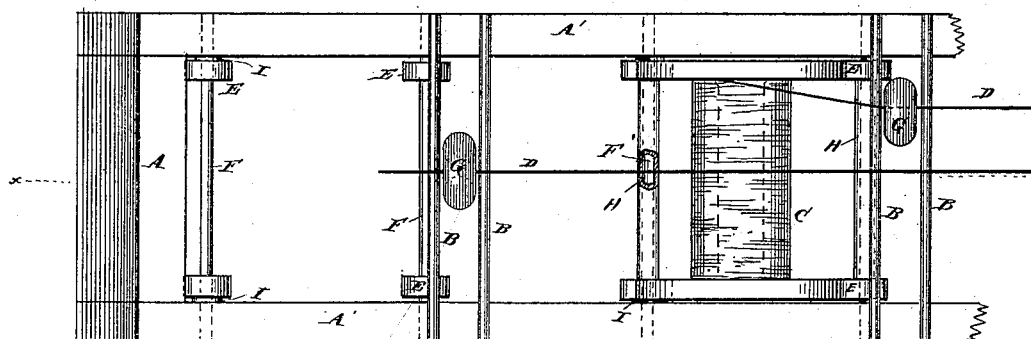


Fig. 3

Attests
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UNITED STATES PATENT OFFICE.

RICHARD S. COOKSON, OF PHILADELPHIA, PENNSYLVANIA.

BOBBIN-FRAME FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 263,319, dated August 29, 1882.

Application filed December 31, 1881. (No model.)

To all whom it may concern:

Be it known that I, RICHARD S. COOKSON, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Bobbin-Frames for Looms, of which the following is a specification.

My invention relates to bobbin-frames in general, but more particularly to those adapted to work in connection with Brussels-carpet looms; and my invention consists in supporting the bobbins upon loose friction-wheels arranged in the frame and independent of the bobbins, in combination with rollers against which the bobbins are drawn to create a friction, and in minor details of construction, all of which are fully set forth in the following specification and shown in the accompanying drawings, which form part thereof.

Heretofore it has been customary to place an axle or pin through the spindle-hole in the bobbin or spool, with the ends protruding to form an axle, which worked in vertical slots in the frame, which extended slightly below the center of the bobbin, and the bobbin was further supported upon a plate secured upon the bottom of the frame. This device was adapted to produce friction to the bobbin and prevent its easy rotation; but in time the support or plate on the bottom of the frame wore down, and the bobbin was then supported upon its axle in the slots, without any practical means of producing sufficient friction to accomplish the required result. Bobbins have also been supported upon rollers; but in unwinding they were not drawn against friction-rollers. There was also in the operation of the construction first named considerable difference in the amount of friction, due to the fact that the pressure of the spool was always vertically downward upon the friction-support. Hence the amount of friction must vary according as to whether the spool is full or nearly empty. By my improvement the amount of friction is practically constant and independent of the quantity of material on the spool, and the device can never wear out. Since the friction is practically constant, there is little or no variation in the tension under which the warp is put.

In the drawings, Figure 1 is a section on line *xx* of Fig. 2 of a portion of a bobbin-frame embodying my invention. Fig. 2 is a plan of a

portion of the bobbin-frame. Fig. 3 is a modification of the same.

A is the frame, and consists of two side pieces, A', joined together by cross-pieces. 55

B are supporting-wires, over which the warp D is drawn, the tension-weight G being hung upon the warp between the two wires.

C are the bobbins or spools, and have no axle or pin, but simply rest upon the friction-wheels E E upon the shafts or rods F. The edges or flanges of the bobbin C run upon the friction-wheels, as shown. If two sets of wheels are used to support the bobbin, they must be put in the frame a distance apart which is less than the diameter of the flange of the bobbin. When more than two sets of friction-wheels are used, as shown in Fig. 3, they may be set so as all to bear upon the bobbin-flange. The friction-wheels next to the wires B are preferably arranged above the centers of the bobbins. 70

In operation, the warp being pulled, the bobbins are drawn against the friction-rollers next to the wires and tension-weights, and as the power by which they are drawn against said friction rollers or wheels is practically continuous the greatest friction will be generated at these points and where it is independent of variation in weight, due to the quantity of material on the bobbin. The warp passes from the bobbins C over the wire B next to said bobbin, then under the horseshoe-weight G, then over the other wire B, and finally to the loom. As the warp is used up and drawn from the bobbins it will gradually work its way to alternate sides of the bobbin; but it is prevented from becoming tangled or caught in said flanges or friction-wheels by the tension-weight G, which is arrested in its lateral movement by the friction-wheels, the same being placed so as to project below the wires B, thus preventing the thread from touching anything. The friction-wheels may be fast upon their shafts, which latter may revolve, or they may be loose thereon; and for cheapness they may be slipped loosely and kept apart by a loose sleeve, H, in the middle and loose washers I on the outside, between them and the sides A'. 85 90 95

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is— 100

1. A bobbin-frame provided with friction

rollers or wheels adapted to support the bobbins and allow of their rotation, in combination with rollers or wheels, against which the bobbins are drawn to create a friction and prevent their displacement, substantially as and for the purpose specified.

2. A bobbin-frame provided with rollers or friction-wheels adapted to support the bobbins, one set of said friction wheels or rollers being arranged above the center-line of the bobbin when resting upon said friction-wheels, substantially as and for the purpose specified.

3. The bobbin-frame A and friction-wheels E, in combination with wires B B and tension-weight G, one or more of said friction-wheels projecting below wires B to limit the lateral movement of the weight G, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

RICHARD SENIOR COOKSON

Witnesses:

R. M. HUNTER,

R. S. CHILD, Jr.