(No Model.)

L. C. BALDWIN.

MACHINE FOR PAINTING BOBBINS, &c.

No. 338,380. Patented Mar. 23, 1886.

Fig. 3.

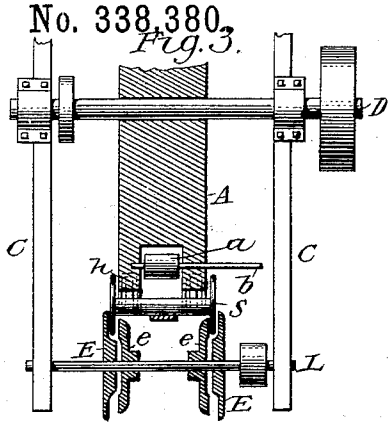


Fig. 1.

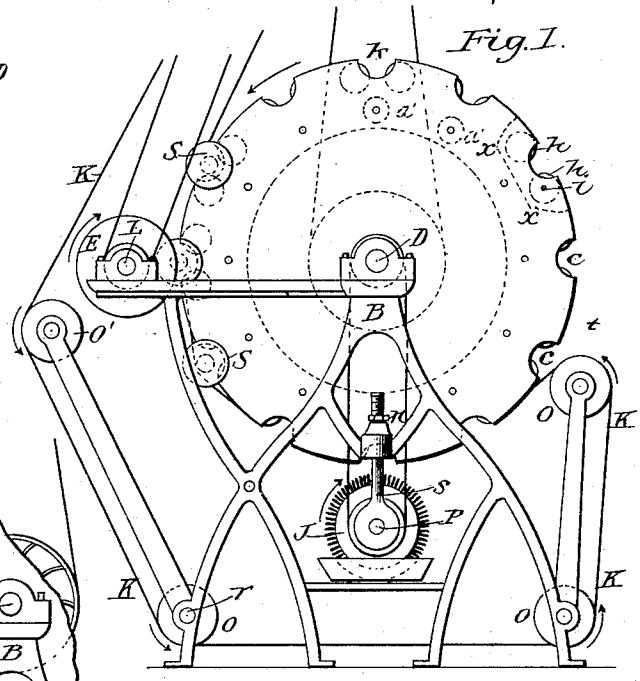


Fig. 5.

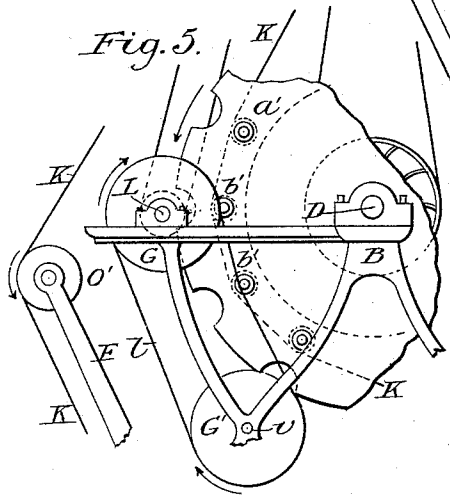


Fig. 4.

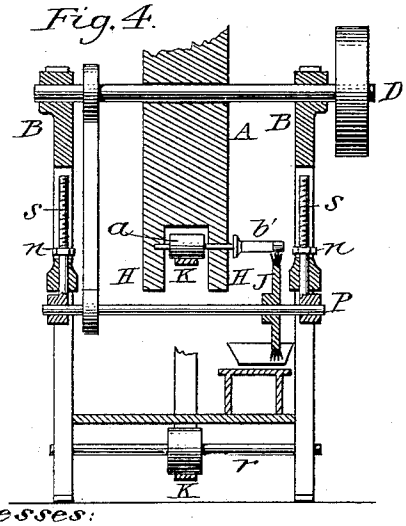
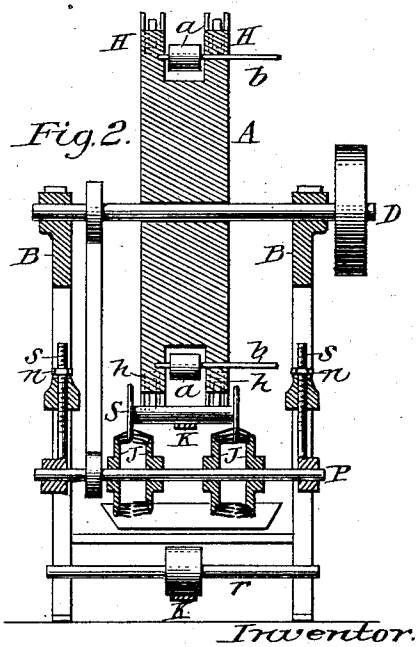


Fig. 2.



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UNITED STATES PATENT OFFICE.

LUTHER C. BALDWIN, OF MANCHESTER, NEW HAMPSHIRE.

MACHINE FOR PAINTING BOBBINS, &c.

SPECIFICATION forming part of Letters Patent No. 338,380, dated March 23, 1886.

Application filed June 19, 1885. Serial No. 169,251. (No model.)

To all whom it may concern:

Be it known that I, LUTHER C. BALDWIN, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Machinery for Smoothing and Painting Spools, Bobbins, and other Articles, of which the following is a full and exact description.

This invention, while it may be used for smoothing and painting handles and other articles, is more especially designed for smoothing and painting spools and bobbins, such as are used in the manufacture of cloth, and I shall here describe it more particularly as so used.

Its object is in part the same as that of apparatus for painting and drying bobbins, &c., secured to me by Letters Patent No. 296,506, dated April 8, 1884, and it resembles said apparatus inasmuch as the spools are painted by means of a mechanically-driven rotary paint-brush; but this invention is different in many respects, and may be used not only for painting, but for smoothing the articles before the paint is applied.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the entire machine. Fig. 2 is a vertical cross-section showing the rotary paint-brushes as arranged for painting spools. Fig. 3 is a partial horizontal cross-section on the line of the projecting arms or brackets C. Fig. 4 is a partial vertical cross-section showing paint-brush as used in painting bobbins, handles, &c.; and Fig. 5 is a partial side view of machine as used in smoothing the same.

The standards B B, having projecting arms or brackets C, and the adjustable hangers *s s*, form the frame-work of the machine. The main frame B B supports the shaft D. The brackets C C support the shaft L, and in the hangers *s s* turns the shaft P. To each of said shafts power may be applied in any convenient manner. The movement of each part of the machine is in the direction indicated by arrows.

On the shaft D, and turning with it, is fixed a circular drum or carrier, A, having its ends enlarged in the form of flanges or heads H H. Said heads have indentations *c* made in their circumferences at equal intervals, their number and relative position being the same in both heads. On each side, and extending below each of the indentations, a mortise, the outline of which is shown in Fig. 1 by the dotted line *x x*, is made to receive the anti-friction rollers *h h*, pivoted at *i*. The circumferences of said rollers extend into the indentations *c*, on either side, as shown at *k*, Fig. 1.

Between the heads H H of the drum A, and so placed as not to interfere with the working of the rollers *h h*, other and longer rollers are fixed, as at *a a*, Figs. 2, 3, and 4, and shown in dotted line *a'*, Figs. 1 and 5. Said rollers have bearings in both the flanges or heads H H, and the bearing on one end of roller projects through and beyond the flange in which it turns, forming spindles or mandrels *b b*.

Upon or between each set of the anti-friction rollers *h h* is placed a spool, S, which, although it is firmly supported by them, is allowed to rotate freely, when, by the revolution of the drum or carrier A it is brought in contact with the friction-belt K K K K. Said belt, in the present instance, is driven from a shaft above the machine, and is flexed out of its natural course by means of the pulleys *o' o o o*, thus partly encircling the drum A. Said belt is held in frictional contact with whatever articles are supported by the rollers *h h* by means of the pulley *o'*, which is supported by the frame F, hung loosely on the rod *r*. Said pulley and frame exert their combined weight as a tightener upon the belt K K K K, drawing it firmly against said articles, and also serving to bring the friction-belt in contact with the rollers *a a*, when there are no spools or other articles upon the anti-friction rollers *h h*. While being rotated by the friction-belt K K K K the revolving drum or carrier A brings the spools or other articles, S, into contact with the smoothing-wheels E E *e e*, which may be rotated more or less rapidly. Said smoothing-wheels may be made of some flexible material that will form itself about the articles being finished, or of some solid substance made to conform to the surfaces of said spools or other articles. The contact-faces of said wheels may be covered

with some erosive material, in order to polish or smooth the surfaces of the work being finished as it passes between them, as shown at S, Fig. 3. After being smoothed by passing between the wheels or rubbers as above described the spools or other articles are further finished by receiving a coat of paint or varnish by means of rotary paint-brushes J J, adjustable upon and turning with the shaft P, which is adjustable vertically by means of the threaded hangers *s s* and the check-nut *n*. The lower circumferences of said brushes dip in a receptacle containing the mixture to be applied, while their upper portions come in contact with the spools or other articles, S, carried by the drum A and rotated by the belt K K K K. After receiving the coat of paint the articles S are carried by the further revolution of the carrier A to the point *t*, Fig. 1, where they may be allowed to drop into some convenient receptacle or removed by hand and placed in position to dry.

Some articles, as handles, bobbins, &c., can be more conveniently finished when placed upon the mandrels *b b*, as shown at *b'*, Figs. 4 and 5. Said mandrels receive a rotary motion by the action of the belt K K K K upon the rollers *a a*. (See Fig. 5.) When finishing bobbins upon said mandrels, a pulley, G, is fastened to the shaft L, and another pulley, G', pivoted at *v* below G, and in such position that a band, *l*, passing around said pulleys and covered with some erosive material, will come in contact with said articles and smooth their surfaces.

After being smoothed by the band *l* the bobbins or other articles may receive a coat of paint, as described for spools, and shown at J, Fig. 4.

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

1. In a machine for finishing spools, bobbins, and other like articles, the revolving drum or carrier A, having enlarged heads H H, with anti-friction rolls *h h*, set in their circumferences for receiving, supporting, and carrying the articles to be finished, substantially as set forth.

2. The work-rotating friction-belt K K K K, arranged to partly encircle the drum A and impart rotary motion to whatever articles may be placed upon the anti-friction rolls *h h* of the drum A, substantially as shown.

3. The combination of the revolving drum or carrier A, having work-supporting anti-friction rolls *h*, fixed in the circumferences of its enlarged ends or heads, with the work-rotating belt K K K K, as shown and described.

4. The drum or carrier A, having enlarged ends or heads H H, with rollers *a a* set between them at equal intervals, said rollers being armed with bobbin or other work-carrying spindles or mandrels, (see Figs. 2 and 3, *b b*,) substantially as shown.

5. The revolving drum or carrier A, having rollers *a a*, armed with bobbin or other work-carrying spindles or mandrels *b b*, in combination with the work-rotating friction-belt K K K K, essentially as described.

6. In machines for finishing spools, bobbins, and other like articles, the smoothing wheels or rubbers E E *e e*, or the smoothing-belt *l*, in combination with the revolving drum A, furnished with anti-friction rollers *h h*, or armed with projecting spindles or mandrels *b b*, and the work-rotating belt K K K K, as and for the purpose set forth.

7. In an apparatus for painting spools, bobbins, and other like articles, the revolving paint brush or brushes J, in combination with a revolving drum or carrier, A, provided with anti-friction work-supporting rolls *h h*, or armed with work-supporting spindles *b b*, and the work-rotating friction-belt K K K K, substantially as shown and described.

8. In an apparatus for finishing spools, bobbins, or other like articles, the combination of the revolving drum or carrier A, furnished with work-supporting anti-friction rollers *h h*, or work-supporting spindles or mandrels *b b*, the device for rotating the articles while being finished, the device for smoothing said articles, and the device for painting them after they have been smoothed, substantially as shown, and for the purpose set forth.

LUTHER C. BALDWIN.

Witnesses:
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J. C. LITTLEFIELD.