

(No Model.)

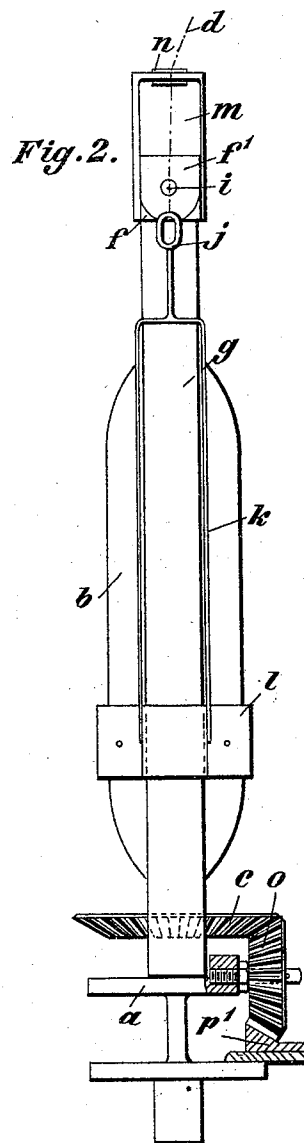
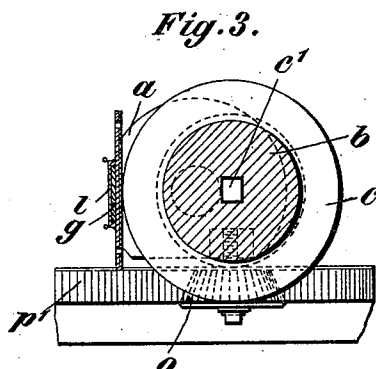
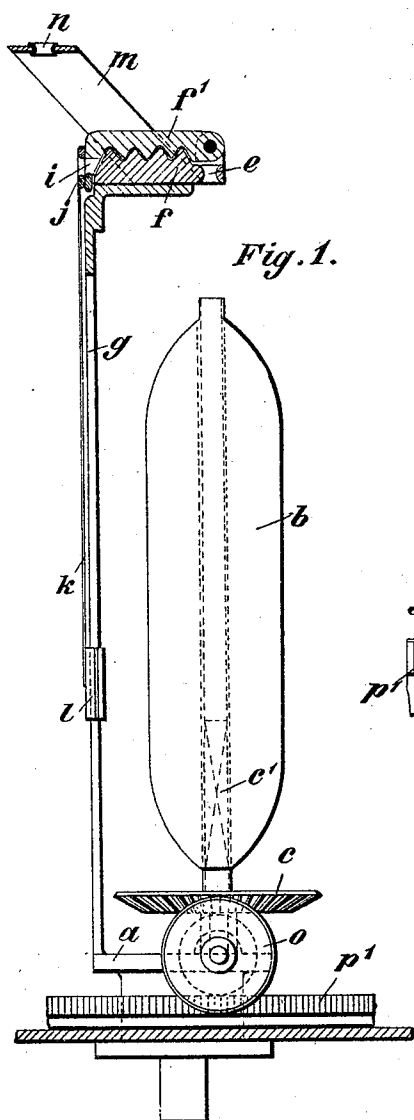
2 Sheets—Sheet 1.

C. F. WOLFERTS.

THREAD CONTROLLING DEVICE FOR LACE MAKING MACHINES.

No. 530,873.

Patented Dec. 11, 1894.



Witnesses:

Jesse Kuyper
J. W. Tuckerschmitt

Inventor:

C. F. Wolferts
Whitaker & Prevoost, attys

(No Model.)

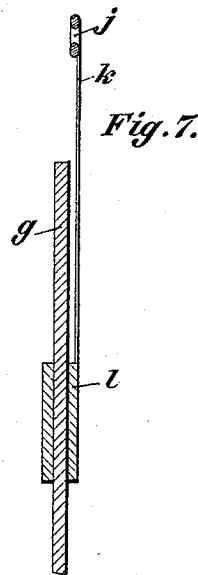
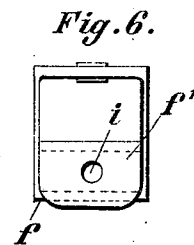
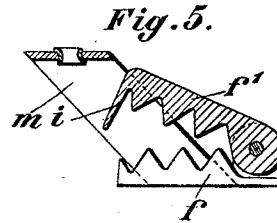
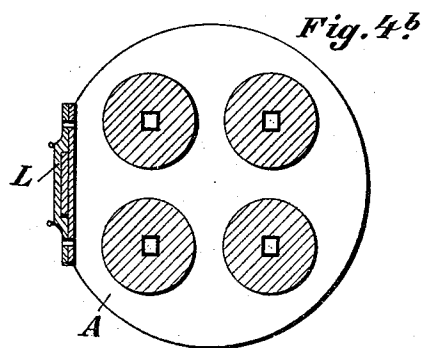
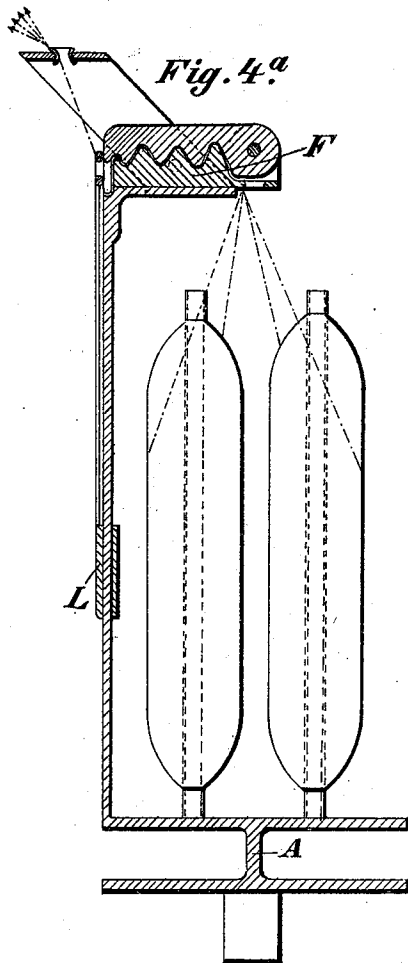
2 Sheets—Sheet 2.

C. F. WOLFERTS.

THREAD CONTROLLING DEVICE FOR LACE MAKING MACHINES.

No. 530,873.

Patented Dec. 11, 1894.



Witnesses:

Jessie Kingery.

G. A. Tauberschmidt.

Inventor:

Carl F. Wolferts

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UNITED STATES PATENT OFFICE.

CARL FRIEDRICH WOLFERTS, OF BARMEN RITTERSHAUSEN, GERMANY.

THREAD-CONTROLLING DEVICE FOR LACE-MAKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 530,873, dated December 11, 1894.

Application filed October 17, 1893. Serial No. 488,435. (No model.)

To all whom it may concern:

Be it known that I, CARL FRIEDRICH WOLFERTS, a subject of the Emperor of Germany, residing at Barmen, in the Kingdom of Prussia and German Empire, have invented certain new and useful Improvements in Thread-Controlling Devices for Lace-Making Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention is an improvement in thread controlling devices for lace making machines and consists in the novel features hereinafter fully described reference being had to the accompanying drawings which illustrate one form in which I have contemplated embodying my invention and said invention is fully disclosed in the following description and claim.

Referring to the said drawings: Figure 1 is a side view of the bobbin frame. Fig. 2 is a front view and Fig. 3 is a sectional plan of the said frame with one bobbin, while Figs. 4^a and 4^b show a frame with four bobbins. Figs. 5 and 6 are views of details of the thread clamp, and Fig. 7 a view of the take up or tension weight.

In the drawings referring particularly to Figs. 1, 2, 3, 5, 6 and 7, *b* represents a bobbin mounted on a bobbin support *a* and secured in this instance to a bevel pinion *c* to which rotary motion is imparted from a stationary rack *p'*, as the bobbin frame moves through the intervention of the bevel pinion *c*. Above the bobbin *b* is what I term the thread clamp which consists of a pair of serrated plates *f* *f'* the serrations of one plate entering the recesses of the other plate. The bottom plate *f* is rigidly supported by a standard *g* secured to the bobbin support *a* and the movable plate *f'* is hinged to the plate *f* and has the free end provided with a thread guide *i*. The lower plate *f* is also provided with an eye *e* adjacent to the hinge connection, to permit the thread to be introduced between the two plates. Above the plane of the thread clamp and slightly forward of the same is the de-

livery eye *n* supported by arms *m m* from the standard *g*, or the fixed plate *f*. The thread after leaving the thread guide *i* in the upper or movable plate *f'* is engaged by a thread eye *j* to which is connected the take-up or tension weight *l* by means of a rod *k*. The weight slides preferably upon the vertical support or standard *g*.

The operation of the device is as follows: When a certain amount of thread has been drawn through the thread clamp there will be slack between it and the delivery eye *n* which will be instantly taken up by the tension weight falling and drawing down the thread eye *j*. This will cause the thread to draw down on the thread guide *i* of the upper plate *f'* of the thread clamp as indicated in Fig. 2, and prevent any more thread passing through it. As the machine gradually uses the slack thread the thread eye *j* and tension weight will rise, the weight keeping a constant tension on the thread. When the thread eye *j* has been drawn up into line with the thread guide *i*, the further drawing of the thread will lift the upper plate *f'* of the thread clamp as will be seen from Fig. 1 and an amount of thread will be drawn through the clamp. The falling of the weight will close the thread clamp again and the operation will be repeated. When several threads of different colors are employed they may be drawn from a number of bobbins placed on a single bobbin support, as indicated in Figs. 4^a and 4^b and all the threads will pass through the thread controlling devices like one thread.

It will be seen that when the construction shown in Figs. 1 and 2 is employed the bobbin will be rotated as the thread is drawn off and thus an additional amount of twist is imparted to the thread, thus enabling thread to be used direct from the cop, and enabling spools and spooling to be dispensed with.

What I claim, and desire to secure by Letters Patent, is—

In a thread controlling device the combination with the thread clamp comprising a fixed serrated plate, and a movable serrated

plate hinged thereto and provided with a
thread guide at its free end, and the delivery
eye located above the plane of the thread
clamp, of the sliding weight and the thread
5 eye connected therewith engaging the thread
between the thread clamp and the delivery
eye, substantially as described.

In witness whereof I have hereunto set my
hand in presence of two witnesses.

CARL FRIEDRICH WOLFERTS.

Witnesses:

WILLIAM ESSENWEIN,
HERMANN STRAUSS.