

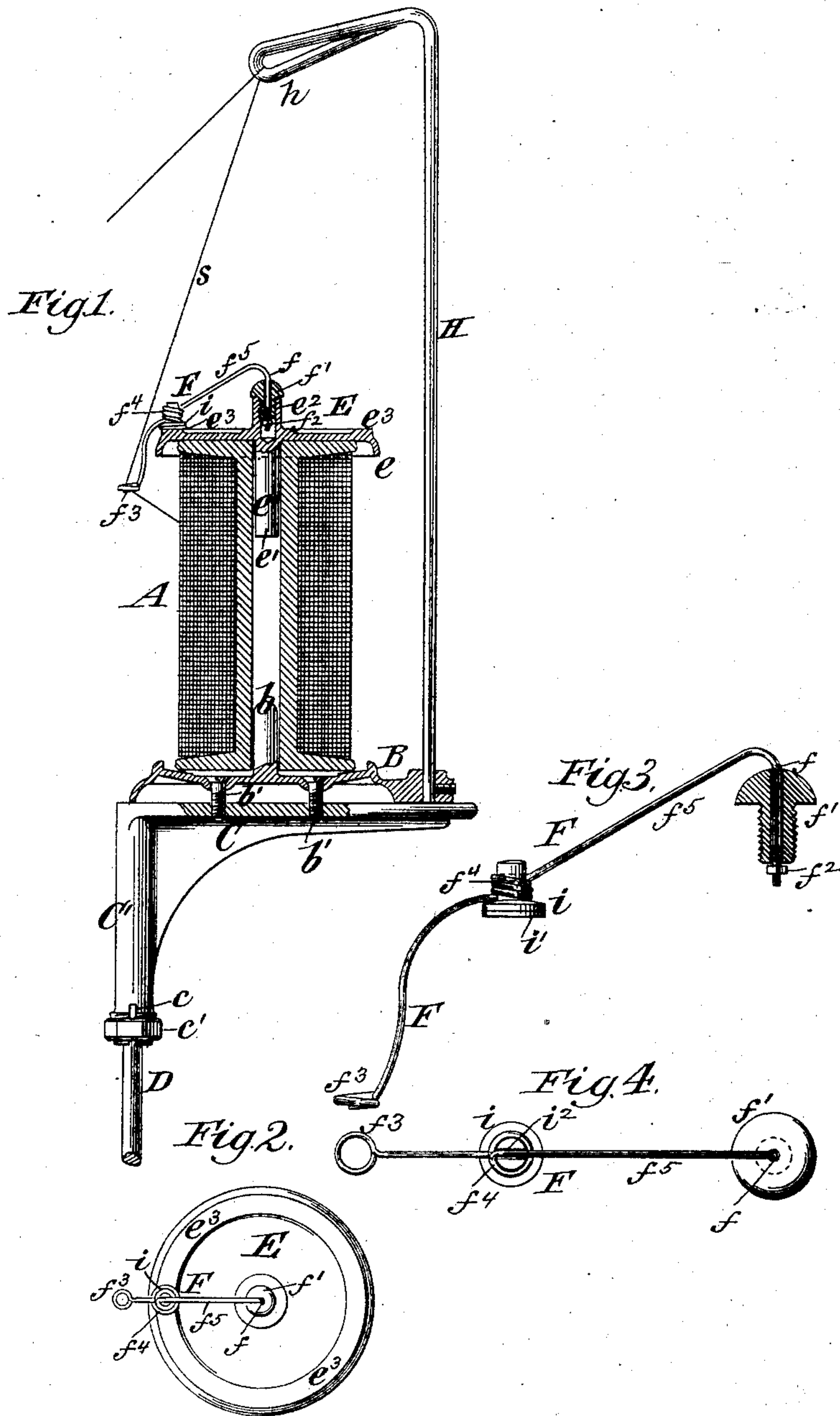
(No Model.)

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## UNWINDING ATTACHMENT FOR SPOOLS.

No. 371,291.

Patented Oct. 11, 1887.



*Witnesses.*

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# UNITED STATES PATENT OFFICE.

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## UNWINDING ATTACHMENT FOR SPOOLS.

SPECIFICATION forming part of Letters Patent No. 371,291, dated October 11, 1887.

Application filed April 26, 1887. Serial No. 236,141. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. WILKINSON, of Matteawan, in the county of Dutchess and State of New York, have invented a new and useful Improvement in Unwinding Attachments for Spools, of which the following is a specification.

My invention relates to unwinding attachments for spools, which comprise a base-piece 10 having a spindle rising therefrom and on which a spool is placed, a cap resting upon the top of the spool and having an upwardly-projecting stem, and a flier pivoted at the central stem and provided at its outer end with a thread-eye. In such attachments a brake is frequently 15 provided for retarding the movement of the flier, or for producing such resistance to the movement that it will not race ahead when the draft on the thread ceases, but will instantly stop, thereby preventing the unwinding of any 20 slack thread.

The objects of my invention are to simplify the construction of the cap or flier and the brake or shoe which forms the resistance device, and, furthermore, to so construct and 25 combine these parts that there will be no liability of the track on which the brake or shoe works being clogged up, so as to block or retard unnecessarily the movement of the shoe or brake, and so that by bending the flier the 30 resistance offered by the brake to the rotation of the flier may be increased or diminished at will.

Unwinding attachments of the kind to which 35 my invention relates are frequently used in connection with spools containing several pounds of thread, and therefore of large size; and a further object of my invention is to provide a stand or bracket for the aforesaid base-piece, and which is so constructed that it may 40 be applied and readily secured to the spool-spindle of a sewing-machine in such position as to bring the spool of thread over the wheel of the sewing-machine and at a greater distance 45 from the needle.

The invention consists in novel combinations of parts hereinafter described, and particularly set forth in the claims.

In the accompanying drawings, Figure 1 is 50 a sectional elevation of parts embodying my invention. Fig. 2 is a plan of the unwinding

attachments alone. Fig. 3 is an elevation, on a larger scale, of the flier and appurtenances, and Fig. 4 is a plan on the same scale as Fig. 3 of the parts shown therein.

Similar letters of reference designate corresponding parts in all the figures.

A designates the spool from which thread is to be unwound, and which is placed upon a spindle or stud, *b*, rising from a base-piece, B. 60 This base-piece may be set upon a bench, table, or other suitable support, and in the present example of my invention is represented as secured by screws *b'* to a bracket or stand, C, which is constructed with a cylindrical socket, 65 C', to pass over the spool-spindle D of an ordinary sewing-machine. The lower-end portion of the socket C' is split or divided, as shown at *c*, so as to enable it to be contracted on the spindle D, and is tapered and provided 70 with a tapering clamping-nut, *c'*. By screwing up this nut the split or divided end portion of the socket C' will be clamped closely upon the spindle D, and the stand or bracket C thus held in any desired position of height 75 on the spindle.

E designates a cap which rests upon the top of the spool, and is represented as having a downwardly-turned rim, *e*, and a central or downwardly-projecting stud, *e'*, which enters 80 the hole in the spool and centers the cap thereon. The cap E also has an upwardly-projecting stem, *e''*, at its center, and near its periphery is a circular track, *e'''*, which, as here represented, has a flat top surface and is preferably raised slightly above the general level 85 of the top of the cap.

F designates a flier which has one end portion bent downward and constituting a pivot, *f*, fitting in a plug, *f'*, which may be screwed 90 into the top of the stem *e''*, so as to constitute in effect a part thereof. By means of the nut *f''*, applied to the lower end of the pivot *f*, it will be prevented from being lifted. At the opposite end of the flier F is a guide-eye, *f'''*, 95 for the thread *s*, which is taken from the spool and passes upward to an upper thread-guide, *h*, which is supported by the post H from the base B. Between the ends of the flier is a friction pad or shoe, *i*, which may be faced with 100 leather, cork, rubber, or other suitable friction-producing material, *i'*, and which may be



made of wood or other material. This pad or shoe  $i$  is securely fixed to the flier  $F$  in this example of my invention by coiling the wire of which the flier is made at  $f^4$  about the shank of the pad or shoe  $i$ , and, as here shown, the wire rests in a slot,  $i^2$ , in the top of the shoe, and so holds the latter in place upon the flier. This pad or shoe is, it will be seen, a permanent attachment of the flier, and it bears upon the raised circular track  $e^3$ . The frictional resistance produced by the sliding of the pad or shoe  $i$  upon the raised track  $e^3$  retards the flier and causes it to stop at once and not race ahead when the draft on the thread is slacked. It is advantageous to have the pad or shoe  $i$  a permanent attachment to the flier, as distinguished from having a flier simply engaged with it by resting in a notch in its upper portion, because the brake or shoe cannot be lost. It is furthermore advantageous to have the track  $e^3$  consist of a surface raised above the general top of the cap, because then any dust, fluff, or other obstruction which may deposit on the track will be swept off by the action of the pad or shoe  $i$ , and cannot by any possibility unduly impede the movement thereof. It will be seen that the portion  $f^5$  of the flier  $F$  is raised considerably above the cap  $E$ , and constitutes a spring-arm, which may be more or less bent in order to increase or diminish the pressure of the pad or shoe  $i$  upon the track  $e^3$ .

I am aware of Patent No. 223,133, granted December 30, 1879, to G. Hall, Jr., and Patent No. 280,504, granted July 3, 1883, to T. R. Nichols, and I do not claim either of the constructions shown in said patents as included in my invention. It will be observed that as distinguishing features of my device is a track,  $e^3$ , which has a great or greater elevation than the surface within and without it, and it also has a pad or shoe which is secured upon the flier, and it also has a flier which is raised between the pad or shoe and its pivot at a considerable distance above the cap, so as to constitute a spring-arm, which may be bent as desired to vary the pressure of the pad on the track. In considering the differences between my invention and Hall's patent, it will be observed that my track  $e^3$  is not depressed below the general surface of the cap, or is not in the form of a groove, and hence there is no opportunity for the lodgment of dust, dirt, or any particles of matter which will obstruct the passage of the pad or shoe over the track; and inasmuch as the pad or shoe bears only by its bottom surface upon the track any wear will not decrease the resistance which the pad offers to the rotation of the flier. Furthermore, it is important to have the flier inclined upward from the pad

toward its pivotal point, so as to form an elevated spring-arm of wire, which may be bent to any degree desired in order to increase or diminish the pressure of the pad upon the track. In considering the differences between my stand  $C$ , which supports the base-piece  $B$ , and the supporting-piece shown in Nichol's patent it is observed that my stand has a flat extended top portion on which the base-piece is rigidly secured, and also has a clamping-nut,  $c$ , upon a socket,  $C'$ , as distinguished from a simple set-screw.

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

1. The combination, with a base-piece and a spindle rising therefrom, of a spool on the spindle, a cap resting on the spool and having an upwardly-projecting stem and a circular track,  $e^3$ , on the upper surface, the elevation of the track being as great or greater than the surface within and without it, and a flier pivoted at one end on the said stem of the cap and having a thread-eye at the other end, and a friction pad or shoe made separate from but secured upon the flier between its ends and running on said track as the flier is rotated, substantially as herein described.

2. The combination, with a base-piece and a spindle rising therefrom, of a spool on the spindle, a cap resting on the spool and having an upwardly-projecting stem and a circular track,  $e^3$ , on its upper surface, the track having an elevation as great or greater than the surface within and without it, and the flier  $F$ , pivoted at one end to said stem and having a thread-eye at the other end, and having secured to it between its ends the friction pad or shoe  $i$ , running upon said track, the portion  $f^5$  of the flier between the pad and pivot being raised above the cap and constituting a spring-arm, which may be bent to vary the pressure of the pad on the track, substantially as herein described.

3. The combination, with a stand having a socket to fit a sewing-machine spool spindle and provided with a clamping-nut for securing the socket on the spindle, and having a top plate,  $C$ , forming an extended horizontal surface, of a metal base-piece made separate from the stand and provided with means for rigidly securing it on the flat top of the stand, and having itself an upward-projecting spindle and a spool thereon, a cap applied to the spool, a flier pivoted on the cap, and a friction-brake for retarding the rotary motion of the flier, substantially as herein described.

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Witnesses:

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