

(No Model.)

J. G. SANDFORD.

TENSION FOR SEWING MACHINE SPOOLS.

No. 259,334.

Patented June 13, 1882.

Fig. 1.

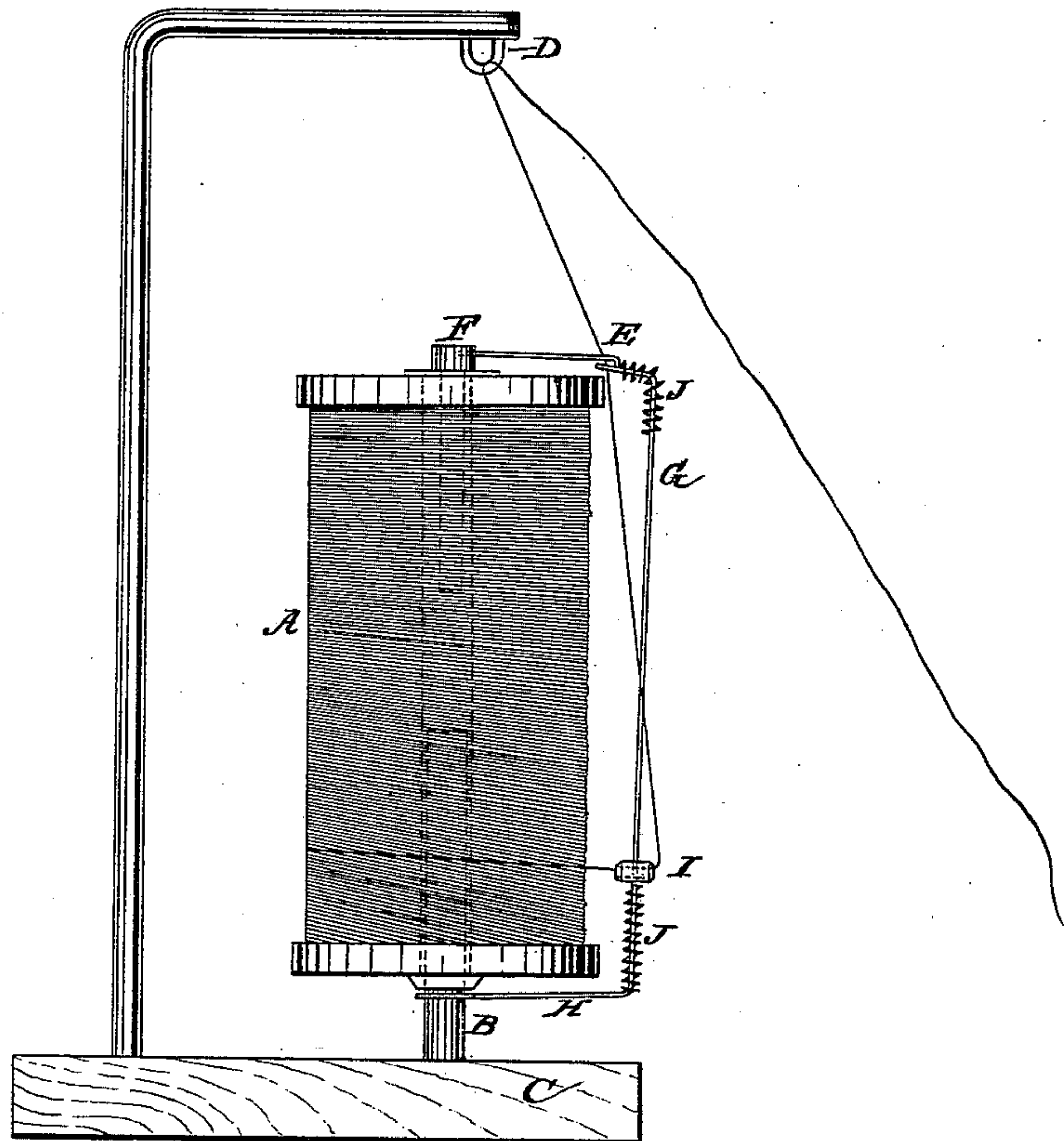
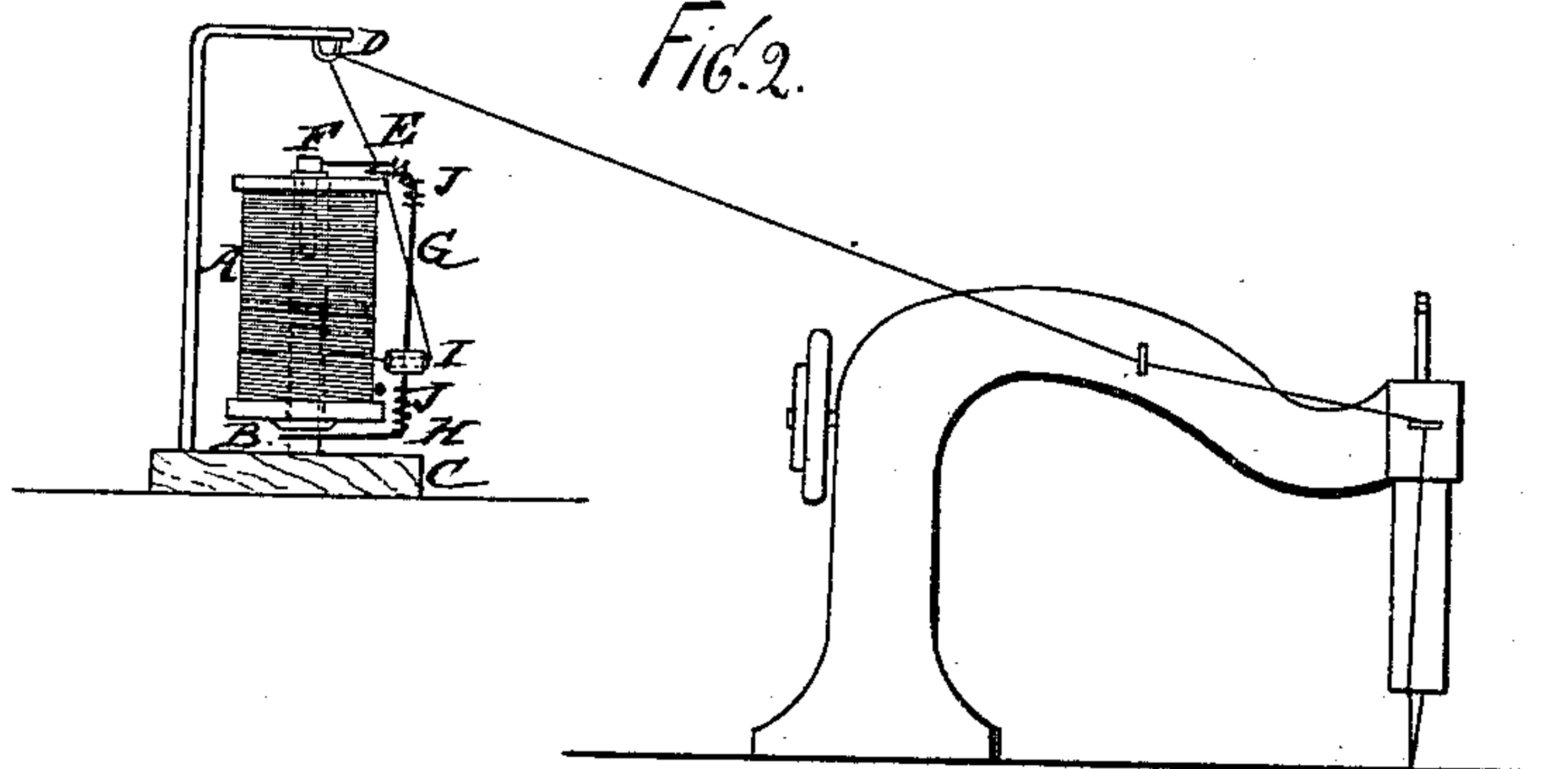


Fig. 2.



ATTEST-
John Buckler.
Attest Morgan

INVENTOR-
John G. Sanford.
By A. P. Hayer

UNITED STATES PATENT OFFICE.

JOHN G. SANDFORD, OF MATTEAWAN, NEW YORK, ASSIGNOR TO ROBERT STRAIN, OF SAME PLACE.

TENSION FOR SEWING-MACHINE SPOOLS.

SPECIFICATION forming part of Letters Patent No. 259,334, dated June 13, 1882.

Application filed March 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. SANDFORD, of Matteawan, Dutchess county, New York, have invented a new and useful Improvement in Let-Off Regulators for Sewing-Machine Spools, of which the following is a specification.

My invention relates to regulating the unwinding or letting off of the thread for the supply of sewing-machines from the large spools employed to furnish the machines used in manufacturing establishments, and is designed to so regulate the delivery of the same as to prevent irregular, tight, and slack conditions produced by the varying degrees of adhesion of the thread to the spool, occurring by various causes—for instance, the different angles caused by the traverse of the thread from end to end of the spool, the deeper lodgment of the coils between each other in different places, &c.

The invention consists in certain novel combinations of parts, constructed and adapted for operation substantially as I will now proceed to describe.

In the accompanying drawings, Figure 1 is an elevation of my improved let-off regulator for sewing-machine spools, and Fig. 2 illustrates the same in connection with a sewing-machine.

A represents the large commercial spool for the supply of thread to manufacturing-machines. It is applied to the vertical stud-pin B of any suitable base, C, with a thread-guide, D, over its vertical axis, and a flier-guide, E, on the arm of a pivot, F, fixed in its upper end in the usual manner. To this flier-guide arm I make a vertical extension, G, to or below the bottom of the spool, with a radial arm, H, to and around the stud B for a steadying device to the vertical part G, and on this apply the gravity-guide I, through which the thread passes directly from the spool and before it passes through the flier-guide E, said gravity-guide being the essential feature of my invention. The said gravity-guide rises quickly in case of any hitch of the thread on the spool, and thereby lessens the strain on the tension device of the sewing-machine, and, *per contra*, falls in case of the too free delivery of the thread and takes up the slack, so as to maintain the necessary strain on the tension.

The springs J are employed to cushion the weight I when thrust upward by unusual tension or let fall quickly.

By locating the weight on the vertical extension of the flier-guide E, instead of arranging said flier itself to rise and fall, the guides that would be required above and below the spool in such an arrangement are avoided, and a very simple device is provided that may be employed upon the ordinary spool-stand and with the flier E now used therewith for the delivery of the thread from these large spools to the sewing-machines. The weight works with less friction, and is therefore more sensitive.

I am aware that a flier, E, has been arranged to rise and fall on a spindle or rod above the spool, with a spring above it to press it down, the said flier being made to overhang the upper end of the spool and extend downward along it about to the middle; but the spring is too limited in its range and too variable in its action for practical use.

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

1. The combination, with the stud B, upon which the spool to be unwound is set, of the pivot F, adapted to be inserted in the upper end of said spool, the arm projecting laterally from the pivot F and having the guide-eye E, the vertical extension G, having the lower arm, H, extending under the spool and connected to the stud B, the vertically-sliding guide-eye I, and a fixed guide, D, the whole adapted to operate to unwind the spool and keep the thread under proper tension, substantially in the manner described.

2. The combination of the stud B, the pivot F, having the arm with the guide E on it, the vertical extension G, and arm H, with the vertically-sliding guide-eye I, and the springs J on the extension G for arresting and limiting the movements of the guide-eye I, substantially as described.

JOHN G. SANDFORD.

Witnesses:

JOHN B. WHITSON,
BENJAMIN SULLIVAN.