

(No Model.)

A. J. HART.

THREAD UNWINDER FOR SEWING MACHINES.

No. 385,858.

Patented July 10, 1888.

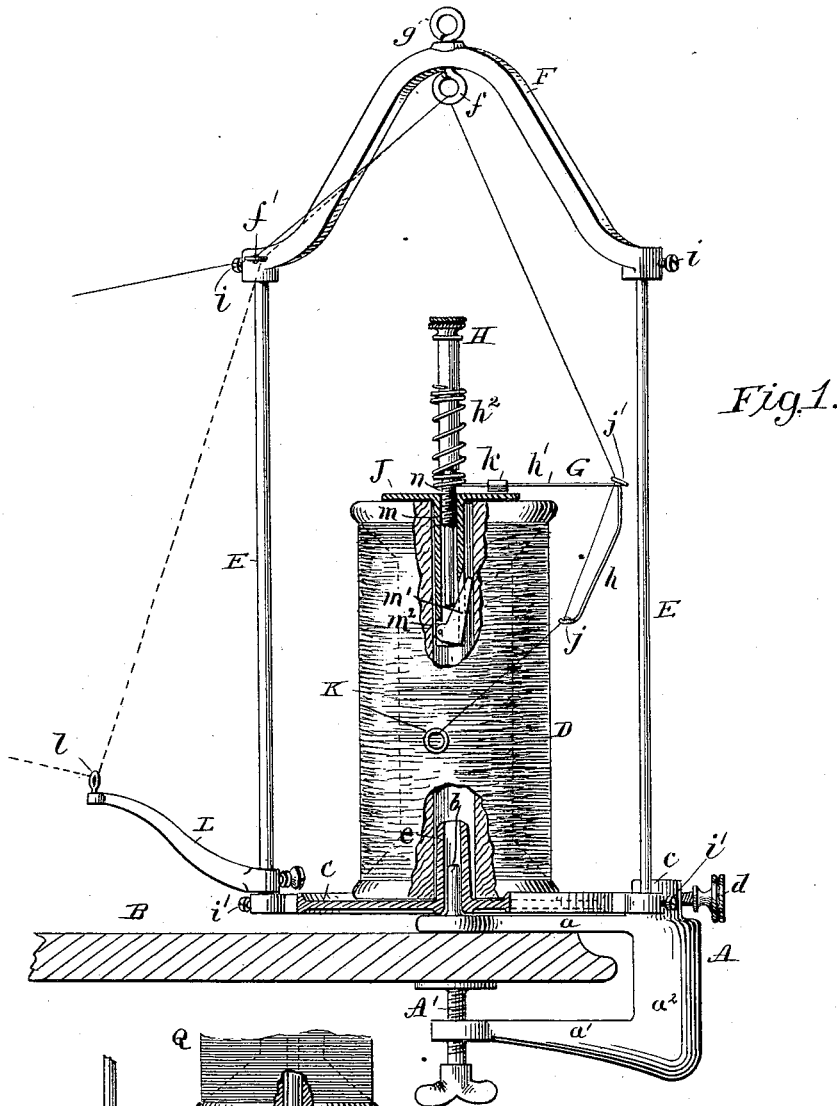


Fig. 1.

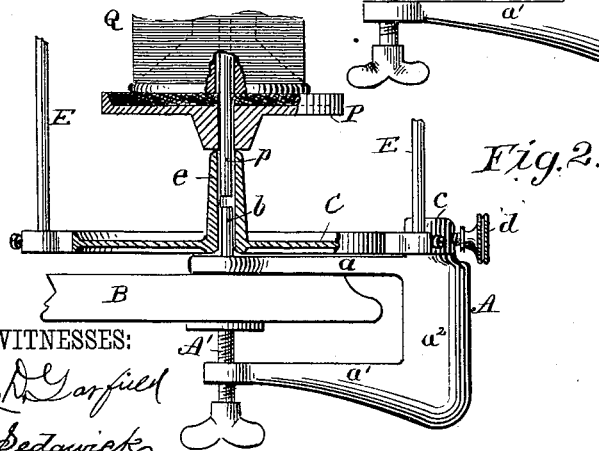


Fig. 2.

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## THREAD-UNWINDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 385,858, dated July 10, 1888.

Application filed December 12, 1887. Serial No. 257,642. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT J. HART, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Spool-Frame, of which the following is a full, clear, and exact description.

My invention relates to a new and improved spool-frame designed more particularly to be used in connection with sewing-machines, the frame being provided with a flier, so that the thread may be drawn off from the spool without revolving upon a stud or spindle.

By my invention very large spools of thread may be practically used with any sewing-machine and a perfectly uniform tension maintained.

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

Figure 1 is a broken side elevation of my new spool-frame applied to a table, shown in section; and Fig. 2 is a detailed view showing a small spool held in the central stud.

A represents a bracket, composed of the members  $a$ ,  $a'$ , and  $a''$ , and a thumb-screw,  $A'$ , is fitted in the member  $a'$  for securing the bracket to a table, B. The member  $a$  is formed with a stud,  $b$ , the pivot of the base-plate or disk C, and said member, or, rather, the body  $a''$  of the bracket A, is formed with the stud  $c$ , in which is fitted the set-screw  $d$  to engage with the edge of the disk C, for locking it at any desired position. The base-plate or disk C supports the spool D upon the central hollow stud  $e$  of the disk, which receives the stud  $b$ . Rising from the said disk are the two opposite uprights E E, united at the top by the cross-piece or yoke F, which is provided at the under side in the center with a guide,  $f$ , for the thread from the spool D, and at the upper side with an eye,  $g$ , for suspending the device when the bracket A is not used. The yoke F is secured to the uprights E by set-screws  $i$ , and the said uprights are secured to the disk C by the set-screws  $j'$ , so that the frame may be separated and packed in small space, if desired.

G represents the flier held upon the spool D by the rod H, on which it freely turns. It is

formed of a single wire bent to form the downwardly-projecting arm  $h$ , and horizontal arm  $h'$ , coiled at  $h''$  to turn upon the rod H. The lower end of the arm  $h$  is formed with a thread-guide,  $j$ , and another thread-guide,  $j'$ , is formed at the angle between the arms  $h$  and  $h'$ , and upon the arm  $h'$  is placed the brake  $k$ , made of leather, rubber, or other material, and placed to support the flier upon the top of the spool, or upon the plate J. This brake prevents the flier from swinging around, except as carried by the thread, and it retards the flier to a certain extent, and this retarding action may be increased or diminished by moving the brake upon the arm  $h'$  to or from the rod H.

The plate J is formed with a central tube,  $m$ , to enter the hole in the spool for connecting the flier and rod H to the spool. The lower end of the tube  $m$  is provided with the pivoted dog or pawl  $m'$ , the upper pointed end of which is adapted to engage with the spool for locking the plate J to the spool. The tube  $m$  is made small, and, being provided with the pawl  $m'$ , may be attached to spools having large or small passages through them. The said pawl is pivoted in a slot,  $m''$ , in the tube, and its inner edge is inclined, as shown. The rod H is screw-threaded at  $n$ , and works in screw-threads in the tube  $m$ , and the lower end of said rod runs in contact with the inclined inner edge of the pawl  $m'$ , so that when the rod is screwed down it will force the pawl outward, and when turned in the opposite direction will permit the pawl to close into the slot  $m''$  and disengage the spool.

To one end of the yoke F is secured the thread-guide  $f'$ , through which the thread from the spool passes after first being passed through the eyes of the flier and through the guide  $f$ , which is immediately over the center of the spool, so that the strain of the thread upon the flier will always be equal, no matter in what part of its revolution it may stand.

Upon the thread, between the spool and the eye  $j$  of the flier, is placed the small ring K, which acts as a fender between the strand of thread just as it is drawn off and that still wound upon the spool, so that the thread as it is drawn off will not catch or be retarded by contact with the mass of thread upon the spool.

To one of the uprights E is secured the arm L, provided with a thread-guide, l, at its outer end, through which the thread may be passed when found necessary, as indicated in dotted lines.

The stud e, at the center of the base-plate or disk C, is made hollow to receive the rod p, (see Fig. 2,) to which is secured the disk P, which is adapted to support a small spool, Q, so that the frame may be used both for large and small spools.

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

The base-plate C, provided with the stud e, and with the uprights E and cross-piece F, in combination with the spool placed upon the stud e, the plate J, rod H, flier G, placed on said rod, and the ring K, placed upon the thread below the flier, substantially as described.

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Witnesses:

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