

T. FINIGAN.
Thread-Cleaner.

No. 225,217.

Patented Mar. 9, 1880.

Fig. 1.

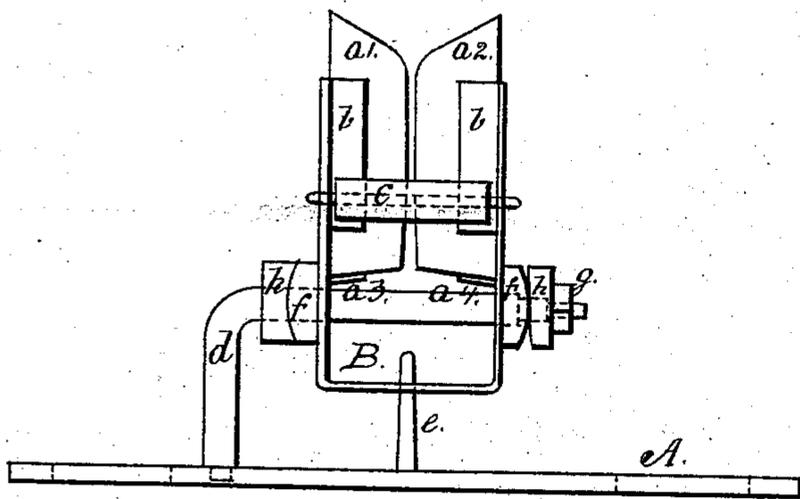


Fig. 2.

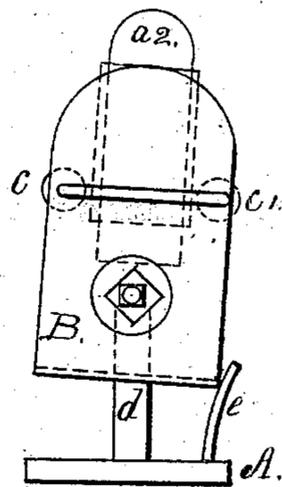
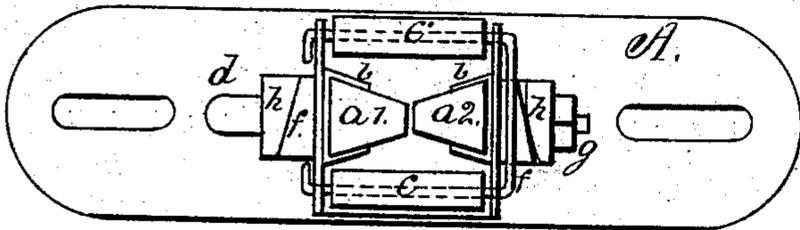


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS FINIGAN, OF PATERSON, NEW JERSEY.

THREAD-CLEANER.

SPECIFICATION forming part of Letters Patent No. 225,217, dated March 9, 1880.

Application filed October 28, 1879.

To all whom it may concern:

Be it known that I, THOMAS FINIGAN, of the city of Paterson, county of Passaic, and State of New Jersey, have invented a new and useful Improvement in Thread-Cleaners, of which the following is a specification.

The object of my invention is to provide a thread-cleaning device which will more effectually prevent the passage of lumps, knots, and protuberances between the guards or blades of the cleaner while the thread is being cleaned than those now in use; and the invention consists in an oscillating frame arranged on an arm secured to the bottom plate of the thread-cleaning device.

The frame has cam-shaped hubs which engage with cams that are arranged on the arm, the latter forming the axle on which the frame turns. The frame is provided with guards, between which the thread is passed to be cleaned, arranged vertically in boxes made of sheet metal, which are secured one to each side of the frame, and the guards rest on brackets fastened to the side of the frame at the bottom of the boxes. The guards are by this method held firmly in position by the boxes and brackets, and only move with the frame to which they are secured. The frame is also provided with two rollers, one in front of the guards and the other back of the guards. The guards and rollers are made of glass and are perfectly smooth, so that the thread to be manipulated may pass over the roller and between the guards without having its fibers caught by rough places. The rollers are secured to the sides of the frame by means of wires, on which they revolve, and the arm is provided with a nut at the end, by which the frame is kept in position. The bottom plate is provided with a pin or stop to stop the frame in its proper position when oscillating.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a front elevation of my thread-cleaning device, showing the frame in position on the arm, the general arrangement of the guards, boxes, brackets, and rollers, the manner of constructing the frame, and the arrangement of cams in connection with the

cam-shaped hubs on the sides of the frame. Fig. 2 is an end view, and Fig. 3 a plan view, of the same.

A indicates the bottom plate; B, the oscillating frame; $a' a^2$, the guards. $b b$ indicate the boxes which hold the guards, as shown in Fig. 1. $a^3 a^4$ indicate the brackets; $f f$, the cam-shaped hubs; $h h$, the cams on the supporting-arm; $c c'$, the rollers; g , the nut; e , the stop, and d the supporting-arm.

The operation of my thread-cleaning device is as follows: The thread is taken on the spool upon which it comes from the spinning-frame, and passed over the roller c , between the guards $a' a^2$, and over the roller c' to the receiving-bobbin on the winding-frame, which is supposed to be in motion. The thread to be cleaned is drawn from the supply-bobbin over the roller c , between the guards $a' a^2$, to the receiving-bobbin by the rotation of the latter. The guards $a' a^2$, being regulated to suit the size of the thread to be cleaned, allow the passage of the smooth portions of the thread between them; but when a lump, knot, or other enlargement of the thread occurs they prevent its passage between them. The receiving-bobbin continuing to draw the thread, which latter is not allowed to pass through the guards on account of the lump or knot, turns the frame on arm d in the direction of the receiving-bobbin. The hubs $f f$ on the frame B being thus caused to engage with the cams $h h$, the sides of the frame B are pressed inwardly, so as to close the guards $a' a^2$ together, thereby tightly clamping the thread and preventing the possibility of the lump or knot getting through between them.

When the projection on the thread has been removed the thread can again pass freely, the sides of the frame springing outwardly and causing the cam-shaped hubs $f f$ and cams $h h$ to act to restore the frame B to its vertical position; stop e acting to prevent it from going too far.

The distinguishing features of my invention are the arrangement of the oscillating frame having the cam-shaped hubs on the arm d , provided with cams which engage with the

cam-shaped hubs when the frame oscillates,
so that by the action of the frame, hubs, and
cams the guards of the cleaner are closed
against the passing of lumps, knots, and en-
5 largements of the thread between them.

My cleaner may be used in cleaning silk,
cotton, flax, and other thread.

What I claim as new, and desire to obtain
by Letters Patent in a thread-cleaning device,
10 is—

The combination of the frame B, provided
with boxes *b b*, brackets *a³ a⁴*, and cam-shaped
hubs *f f*, and the guards *a' a²* and rollers *c c'*,
carried by said frame, with the plate A, arm
d, cams *h h*, stop *e*, and nut *g*, substantially 15
as and for the purpose set forth.

THOMAS FINIGAN.

Witnesses:

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