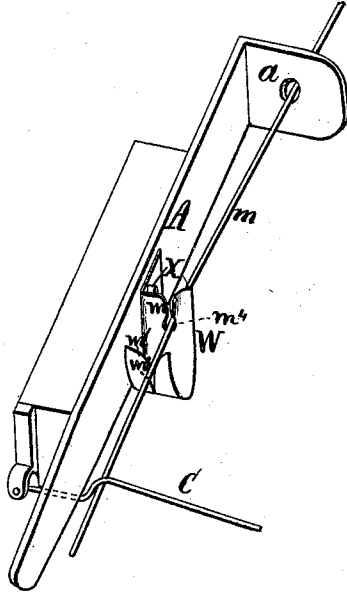


R. & F. J. COOKE.

THREAD-CATCHERS FOR KNITTING-MACHINES.

No. 176,839.

Patented May 2, 1876.



Witnesses:

Henry Gentner
Wm C. Day

Inventors:

R. Cooke
F. J. Cooke
by their atty J. S. Stetson

UNITED STATES PATENT OFFICE.

RICHARD COOKE AND FLORUS J. COOKE, OF NEW HARTFORD, N. Y.

IMPROVEMENT IN THREAD - CATCHERS FOR KNITTING - MACHINES.

Specification forming part of Letters Patent No. **176,839**, dated May 2, 1876; application filed May 15, 1875.

To all whom it may concern :

Be it known that we, R. COOKE and F. J. COOKE, of New Hartford, Oneida county, in the State of New York, have invented certain Improvements relating to Thread - Catchers for use in connection with Knitting-Machines and analogous mechanism, of which the following is a specification:

This invention overcomes a difficulty which we have found in the use of the machine described in our patent dated August 25, 1874. There is a liability of the delicately-suspended lever resting on the yarn to sink too low when a bobbin is exchanged, or when other stoppages are made. The tension of the yarn, which, when the knitting mechanism is in operation and the yarn is actively moving, is sufficient to support the stop-motion lever or feeler—known in that specification as the feeler C—and becomes lessened by any slight delivery of the yarn when the machine is stopped, and the feeler becoming depressed, sets the stop-motion in operation, and necessitates that the stop mechanism shall be reset before starting the machine.

The present invention is intended to avoid such necessity. It insures such a degree of tension on the yarn that the slight weight of the drop wire or feeler will not depress it much from a straight line.

The following is a description of what we consider the best means of carrying out the invention.

The accompanying drawing forms a part of this specification, and represents the thread-catcher with so much of the accompanying parts as is necessary to understand its relation thereto.

It will be understood that all the parts not here shown may be as in our patent of August 25, 1874, above referred to.

A is the thread-guide and portion of the fixed frame-work of the machine, and a is a perforated arm, through which the yarn m runs and is guided and supported. I employ the letter W to indicate the whole of a peculiarly-formed piece of sheet metal, attached by a screw, X, to the framing A. It is curved so as to present two edges extending upward, and the yarn travels through an aperture in each edge. The first is a slit, m , with the

metal twisted or bent so as to allow the yarn to be easily inserted and removed, and terminating at its lower end in a round eye, m^4 , of sufficient size to allow the yarn to pass freely, but to arrest any masses of flock or other encumbering particles. In the opposite upturned edge is a deep notch, m^2 , terminating at its upper end in a more rapidly widening or flaring notch or hopper, m^1 .

When the knitting mechanism is in operation, and the yarn is being drawn into the machine, it passes in or near the junction of the hopper m^1 and the more acutely formed notch m^2 . If the yarn breaks anywhere nearer the knitting mechanism than our thread-catcher W, the lever C falls, and the stop-motion comes instantly into operation, as described in our previous patent. But when the yarn m is slackened on the other side of our thread-catcher—that is, nearer the bobbin—whether from the momentum of the bobbin on a stopping of the machine, or from the removal and exchange of the bobbin, or from any other cause, the yarn, on sinking a very little, is caught between the sides of the deep notch m^2 , and is held with sufficient firmness to support the delicate lever C. On the starting of the machine, the tension of the yarn lifts it readily out of the notch m^2 , and all goes on as before.

We have tested this invention in various forms, and prefer the form and proportions of all the parts here given.

The hopper or widened portion m^1 , at the top of the notch m^2 , facilitates the placing of the yarn in proper position in the first place. Changing the inclination of our entire device, or bending it a little, can readily bring the notch m^1 m^2 higher or lower relatively to the yarn, so as to make and hold it just ready to catch the yarn the moment it sinks below its proper level, and without allowing the lever C to sink low enough to detach the stop motion. The hole or eye m^4 prevents the passage of any considerable knots or waste into the machine, thus avoiding the breakage of needles, and preventing deformities in the work.

We claim as our invention—

1. In combination with a thread-catching device, provided with the acute notch m^2 , the

drop-lever C of a stop-motion, substantially as described, and for the purposes set forth.

2. The thread-catcher described, having the eye m^1 , with a slit leading into it, and having also the acute notch m^2 , in combination with the drop-lever C, as and for the purposes set forth.

In testimony whereof we have hereunto set

our hands this 13th day of May, 1875, in the presence of two subscribing witnesses.

RICHARD COOKE.
FLORUS J. COOKE.

Witnesses:

IRA EDWARDS,
G. R. ALDEN.