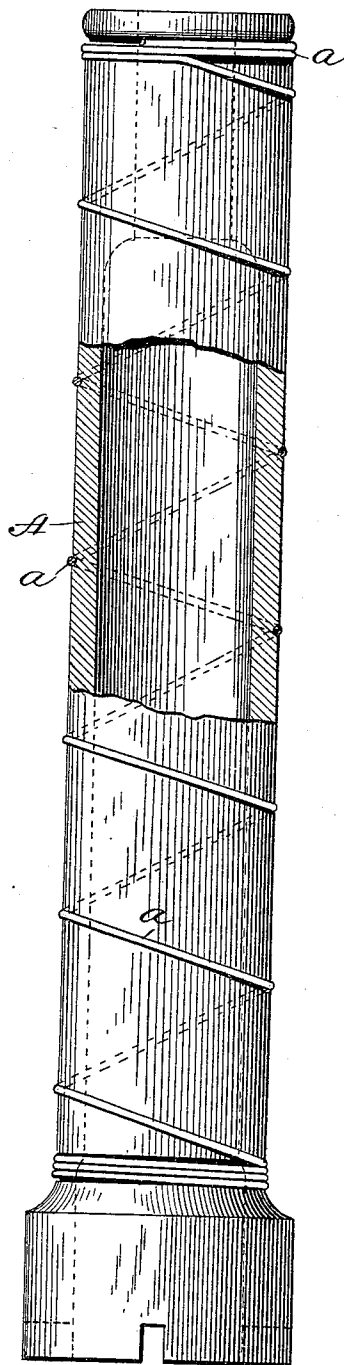


(No Model.)

I. SMITH.
BOBBIN.

No. 461,597.

Patented Oct. 20, 1891.



Attest
Miller Donaldson
F. L. Middleton

Inventor
Irving Smith
by *Ellis Spear*
ATTY

UNITED STATES PATENT OFFICE.

IRVING SMITH, OF BIDDEFORD, MAINE.

BOBBIN.

SPECIFICATION forming part of Letters Patent No. 461,597, dated October 20, 1891.

Application filed June 2, 1891. Serial No. 394,835. (No model.)

To all whom it may concern:

Be it known that I, IRVING SMITH, a citizen of the United States of America, residing at Biddeford, in the county of York and State of Maine, have invented certain new and useful Improvements in Bobbins, of which the following is a specification.

My invention relates to bobbins; and its object is to increase the durability of the bobbin, making it stronger, to prevent it from splitting, and to protect it from the action of the knives of the operators sometimes used in cutting off the yarn or other material when the bobbins are becoming empty.

My invention consists in winding about the outer periphery of the bobbin from the upper to the lower end and spirally a wire strip, this wire being contained within a groove formed to receive it and being secured to the bobbin at the upper and lower parts thereof in any suitable way.

The invention is illustrated in the accompanying drawing, in which the figure represents a side elevation, partly in section.

I have shown at A a bobbin of ordinary construction, and in order to strengthen it and prevent it from splitting I wrap around it spirally a strip of wire *a*, which is preferably adapted to enter a spiral groove made in the periphery of the bobbin from the upper end to the bottom. At the upper end the wire passes around a circular groove, being secured by solder or in any suitable manner, and the lower end of the wire is passed around a groove at the bottom of the bobbin in like manner. The spirally-wound wire preferably extends a little above the periphery of the bobbin, the groove being of less depth than the diameter of the said wire; but this is not essential. The wrapping of the wire not only adds strength to the bobbin and prevents it from splitting, but it serves a very useful purpose, for the reason that it is a custom with some operators when the bobbin is nearly

empty, and especially in cases where the operators are paid by the number of empty bobbins, to cut off the yarn or other material by means of a sharp knife, not only causing great waste of the material, but it is very injurious to the bobbin. The presence of the wrapping of wire, while not preventing the use of a knife, will have a tendency to prevent such use, for the reason that it requires a very sharp knife to sever the yarn, and the passage of the sharp knife over the projecting coils of wire will so dull it as to require that it be sharpened before it can be used for this purpose again, and thus, incidentally, my improvement tends to prevent this waste and at the same time prevents the destruction of the bobbin.

I do not limit myself to the use of wire, as a metal strip may be used instead, and the wire or strip may be secured at the ends in any suitable manner.

I claim as my invention—

1. A bobbin having a spiral groove from one end to the other on its periphery, and a wire or strip laid in the groove, substantially as described.

2. A bobbin having a spirally-grooved periphery, a wire or strip therein, said groove being of less depth than the diameter of the wire or strip, substantially as described.

3. A bobbin having a spiral groove from one end to the other, a wire or strip located therein, a circumferential groove at the top and a like groove at the bottom, the ends of the wire or strip being located in the circumferential groove and held therein, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

IRVING SMITH.

Witnesses:

FRED. C. BROWN,
DORRANCE LITTLEFIELD.