Oct. 18, 1927. 1,646,198

R. L. HAM

THREAD COP

Filed Aug. 9, 1926

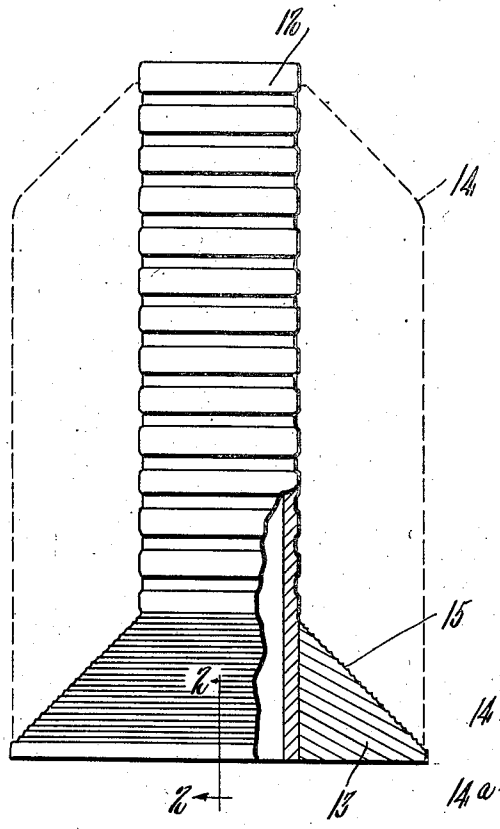
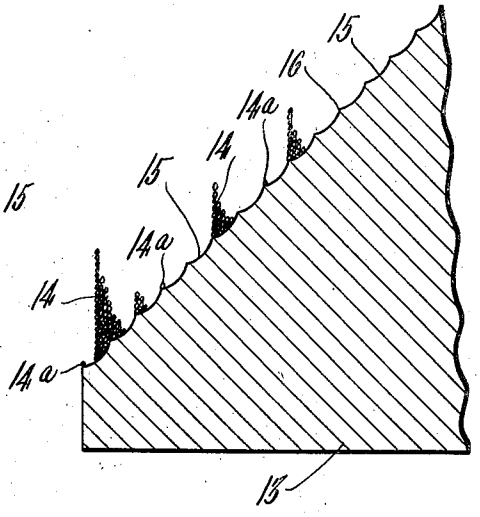


Fig. 1.

Fig. 2.



Inventor:
Robert L. Ham,
by Wright Brown Quinby & May
Attys.

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UNITED STATES PATENT OFFICE.

ROBERT L. HAM, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO SUMMIT THREAD COMPANY, OF EAST HAMPTON, CONNECTICUT, A CORPORATION OF MAINE.

THREAD COP.

Application filed August 9, 1926. Serial No. 127,987.

This invention relates to a thread cop comprising a cylindrical core having an annular head fixed to one end, the head having a flat under surface and a frustro-conical top face inclined relative to the core, and a thread body wound in layers on the core and head with one end abutting the head, and the other end of frusto-conical shape corresponding to the shape of the top face of the head.

The cop is rotatively supported when in use with its longitudinal axis upright. The thread is unwound from the body, as required by a sewing-machine, the core being tubular and mounted to rotate on a stand which includes a base or step on which the flat side of the head bears, and a spindle rising from the base and loosely entering the core, so that the cop is freely rotatable. The thread is universally wound and its layers are unwound successively. As the unwinding progresses loose convolutions of the thread are liable to drop from the lower end of the thread body, particularly the lower convolutions of layers which are unwound progressively from the upper to the lower end of the body. In consequence of the inclination of the top face of the head, these convolutions are liable to fall across the margin of the head and be caught between the bottom side of the head and the base portion of the stand.

The object of the invention is to so improve the form of the frusto-conical top face of the head as to prevent liability of the dropping of thread convolutions across the margin of the head, without rendering said face liable to be chipped and roughened by hard usage, and without so changing its form as to affect or modify the form of the frusto-conical outer end of the thread body determined by the frusto-conical face of the head.

Of the accompanying drawings forming a part of this specification,—

Figure 1 shows partly in side elevation and partly in section, the core of a thread cop and its head, the thread body being shown by dotted lines.

Figure 2 is an enlarged fragmentary section on line 2—2 of Figure 1, surface portions of the thread body at different stages of the unwinding being shown by dots.

The same reference characters indicate the same parts in all of the figures.

12 designates the tubular core of a thread cop, and 13 the annular head thereof, fixed to one end of the core and provided with a flat bottom face and a frusto-conical top face inclined relative to the core. The thread body 14, shown by dotted lines, is composed, as usual, of layers universally wound on the core and head, the inner end of the body abutting the frusto-conical face of the head, and the outer end having a frusto-conical form, the inclination of which is determined by said face.

In carrying out my invention, I provide the top face of the head with a plurality of parallel annular peripheral depressions 15, meeting each other and diversifying the top face, so that it presents a plurality of obtuse angled ridges 16, and shallow transversely concave annular depressions 15, between the ridges. The inclination of the top face and the form of the depressions are such that the outer portions of the depressions constitute upwardly facing seats, the arrangement being such that a thread convolution 14^a droping from the lower end of any layer of the thread body is supported by the outer portion of a depression 15 below said layer and prevented from dropping across the margin of the head.

In consequence of the shallowness of the depressions 15, the ridges 16 formed by the meeting of the depressions, are so obtuse that they are free from liability to be chipped or broken by rough usage, so that the formation of objectionable nicks or notches in the ridges is prevented. Moreover the top face does not sufficiently depart from a true frusto-conical form to noticeably modify the form of the frusto-conical outer end of the thread body, said outer end having substantially the same form it would have, if the frusto-conical face of the head were not diversified as shown.

I claim:

A thread cop, adapted to receive a universally wound thread mass, comprising a tubular core, and an annular head fixed to an end portion of the core, and having a flat bottom face in a plane substantially at a right angle with the core, and a frusto-conical top face inclined relative to the core, and provided

with parallel annular transversely concave peripheral depressions meeting each other to form parallel annular obtuse angled ridges, spaced apart by the depressions, the inclination of the top face and the form of the depressions being such that a thread convolution dropping from the lower end of a thread layer, wound on the cop, is supported by the outer portion of a depression below said layer, and prevented from dropping across the margin of the head, the obtuse angled ridges being free from liability to be chipped or broken.

In testimony whereof I have affixed my signature.

ROBERT L. HAM.