Dec. 31, 1935. E. J. KELLY 2,025,949

CONE ADAPTER

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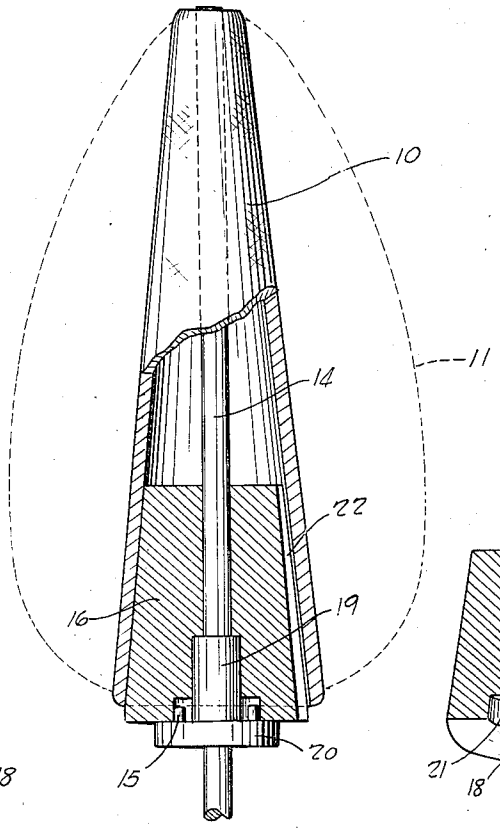


FIG. 1

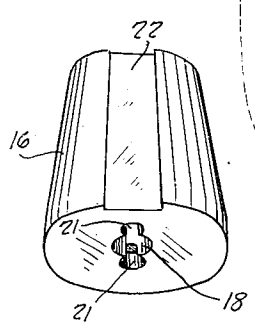


FIG. 2

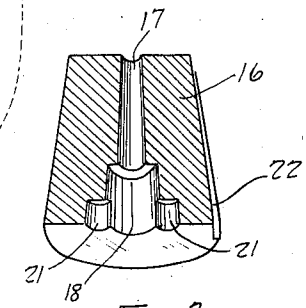


FIG. 3

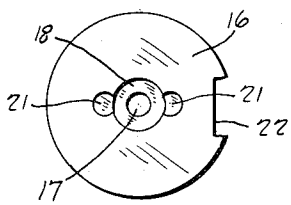


FIG. 4

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CONE ADAPTER

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2 Claims. (Cl. 242—46.2)

This invention relates to cone adapters for employing the spindle of an ordinary winding machine or bobbin winder for winding cones with yarn or thread.

It is well known that in the textile arts, the yarn or thread which is used in some connections, for instance, in knitting machines, is wound upon conical members usually formed of paper, or the like, and that it is customary to wind these cones on a horizontal mandrel with mechanism for automatically feeding the yarn or thread to the cone to be wound, so that the threads are crossed at regular intervals from one end of the cone to the other. It has been found, through experience, that thread so wound often underwinds, especially at the base of the cone so that when unwinding upon the machine, the thread does not feed off smoothly or uniformly, either catching sufficiently to break the thread or exert momentary additional tension upon the thread, in either case ruining or damaging the knitting or other fabric.

It is an object of the present invention to provide means whereby the cone may be so wound with yarn or thread as to be unwound without catching or hindrance. It is, therefore, the invention that the yarn or thread will be wound upon a winding machine such as is employed for winding bobbins and that the body wound upon the cones will be substantially in the shape of the body wound upon a bobbin, whereby there can occur no underwinding as is prevalent in the use of winding machines now in use.

A further object of the invention is, therefore, to provide an adapter by which a cone of usual and ordinary shape and construction may be arranged to operate upon the spindle of an ordinary winding machine, which will wind the thread or yarn in the desired shape.

In the drawing, Figure 1 is a view, in diametrical section of the adapter showing the cone thereon, partly in diametrical section and partly in elevation and co-acting with the spindle of the winding machine.

Figure 2 is a perspective view of the adapter.

Figure 3 is a perspective diametrical sectional view through the adapter.

Figure 4 is a plan view of the base of the adapter.

Like characters of reference indicate corresponding parts throughout the several views.

The present invention has to do with the winding of yarn or thread upon a cone of usual and original type as shown at 10 in Figure 1, and the yarn or thread, when so wound, will form the body which is roughly indicated by the dotted line 11.

Heretofore, the winding of these cones formed a body substantially conical, wherein the threads are wound diagonally and reversely crossing each other in the usual well-known manner. At the base of the body so wound, as, for instance, that part which is substantially flat, it has been the experience that in crossing, the threads underwind at the base of the body so formed and do not feed off or use smoothly or uniformly. Cones so wound are usually, though not exclusively, in the knitting arts and the failure to properly unwind results in bad knitting by reason either of the breakage of the thread, or the increased tension will throw the knitting out of uniformity.

When wound, however, as shown by dotted line 11 and in the manner ordinarily employed for winding bobbins, the thread or yarn feeds uniformly and without resistance from the apex of the cone.

To adapt the cone for use upon the spindle 14 of an ordinary winding machine, means must be supplied for co-acting with the pins 15. The present invention is directed to the provision of a truncated cone 16, having an axial passage 17 therethrough, properly proportioned to fit the spindle 14, and an enlargement 18 fitting a hub 19 on the disc 20.

The conical member 16 is further provided with a socket 21 to fit upon the pins 15 of the disc 20. With the conical member 16 in place, as shown more particularly at Figure 1, the organization is adapted to have the yarn or thread wound thereon by the use of a winding machine as disclosed.

As it is necessary to make rather firm connection between the conical member 16 and the cone 10, it is sometimes found difficult to remove the adapter member after the winding. For this purpose, the conical member is provided with a slot 22 along one side. It is obvious that this slot may be duplicated if found desirable. Its utility is that a hooked implement may be moved slidably up the slot to engage the truncated end of the member 16 and withdraw such member from the cone 10.

Of course, the cone adapter illustrated may be modified and changed in various ways without departing from the invention herein set forth and hereinafter claimed.

I claim:—

1. In combination with a cone, comprising a truncated conical body having an axial passage therethrough, proportioned to fit the spindle of

a winding machine, said passage being formed with an enlarged portion to receive the hub of the spindle and other sockets communicating with the enlarged part of the axial passage adapted to engage other parts of the spindle organization, said adapter being formed with a groove to permit of insertion of a mechanical extracting element.

2. In combination, a cone and a cone adapter, comprising a truncated body, tapering complementary to the cone, said body having an axial passage therethrough to receive the spindle of a winding machine, and a slot along one side extending from end to end adapted to receive an extracting implement.

EDWARD J. KELLY.