Nov. 6, 1962 R. G. DUNN 3,062,368

CLOTH REEL

Filed April 22, 1960

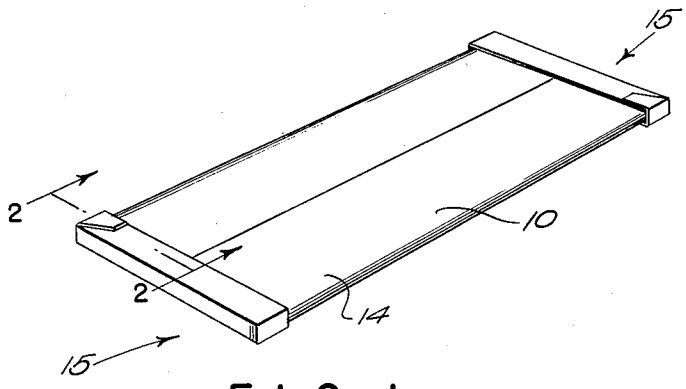


FIG. 1

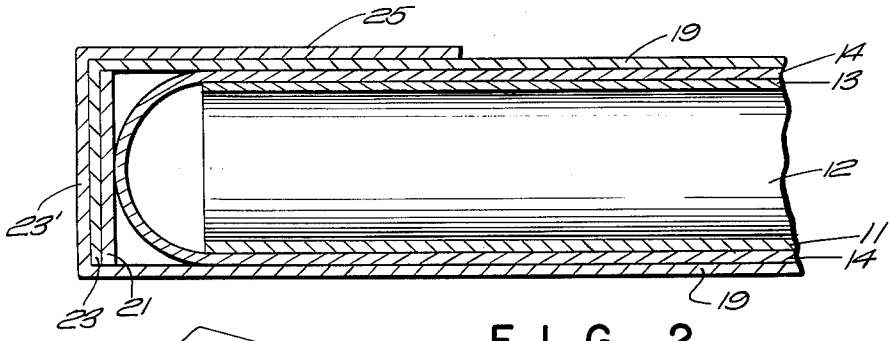


FIG. 2

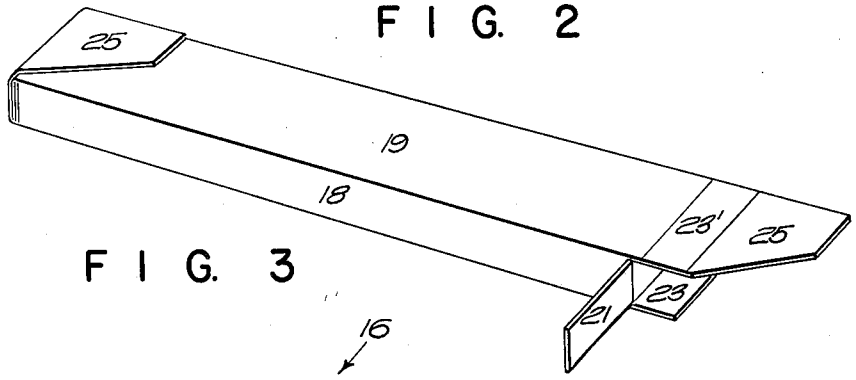


FIG. 3

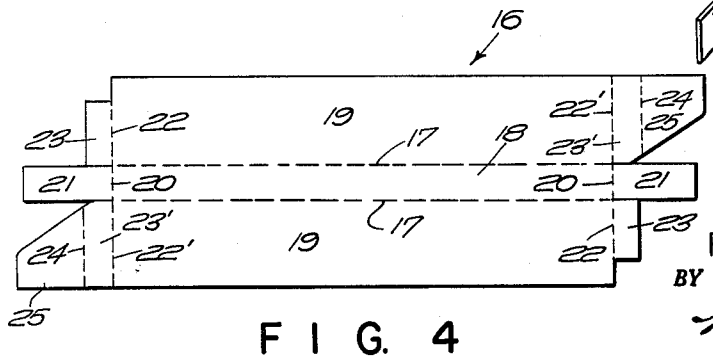


FIG. 4

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CLOTH REEL

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This invention relates to a reel for the winding thereon of some web material such as a textile fabric.

Heretofore, in the manufacture of reels or cores upon which web material has been reeled or wrapped, it has been the practice to form these cores in various manners with a view in mind to provide a flat end surface upon which printed matter may be displayed. The appearance of the package depends largely upon the end of the reel upon which this printed matter is displayed.

In an attempt to reduce the expense of the above type reel, various forms of reels have been made. Reels originally were formed by wooden framework covered with paper with end caps backed up by a solid wooden strip, the end caps being printed with the desired printed matter. This wooden backup provided a very strong and desirable reel and a good appearing end. However the construction of such a framed reel was rather high in cost. In order to reduce the expense and provide a reel of this general type instead of using a wooden framework, a piece of corrugated board was doubled upon itself to form the body part of the reel and a cardboard flat strip was provided at the end which had a cardboard end wall and side walls extending along the end portions of the reel but no edge walls and this cardboard end supported a paper which bridged the side walls and provided the edge surface while covering the end and side walls and upon which the printed matter was displayed. In order to further reduce construction costs, a type of end cap for the corrugated board body was formed by folding cardboard upon itself into a shape having single thickness end, side and edge walls with the end cap formed of a white surface and the printed matter printed directly upon this surface. However, it was found that in all of these reels the corners would crush due to excessive pressure which destroyed the flat desired appearance of the end of the reel where the printed matter occurred. The strength could not be well obtained with a U-shaped end cap such as was used. Further attempts to reduce expense consisted in providing a single thickness of rather heavy chipboard with end caps which were let into the end of the board with a printed covering material or with a U-shape supporting end over which a printed U-shape piece extended. However, this construction likewise lacked the edge wall support and did not have the desired rigidity in the corners and further it was not sufficiently thick in between the ends so as to provide a smooth reel. The cost was not appreciably reduced from that just before mentioned.

In all of these constructions, the weakness was at the corner spots of the core where there was either no good supporting thickness of material or such support was of a single ply of material and insufficient.

An object of this invention is to provide a stronger support at the corners of the reel through the utilization of a reinforced corner on the cap which is placed on the end of the reel.

Another object of this invention is to provide this reinforcement by folding a sheet of stock so that the increased thickness may be had by multiple plies of the stock at the point desired.

A further object of this invention is to so provide the end cap that the usual operations of assembling the end cap on the end of the reel will be substantially those which have previously been performed by placing end caps on a reel of the ordinary construction.

Another object of the invention is to provide an end cap of cardboard which will be scored so that it will readily bend into the shape desired easily by the manipulation of the operator.

A further object of the invention is to provide an end cap upon whch printing will occur and which printing may be had at the same time that the scoring takes place so that in mechanical manufacture one operation of scoring and printing may be accomplished at the same time.

With these and other objects in view, the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings:

FIG. 1 is a perspective view of the cloth reel of this invention;

FIG. 2 is a section on line 2—2 of FIG. 1;

FIG. 3 is a perspective view of the end cap with one end folded and the other end unfolded; and

FIG. 4 is a plan view of the blanked-out end cap before folding.

In proceeding with this invention, I utilize the body of the reel substantially of the construction which has heretofore been provided and form an end cap for the reel which will be reinforced to a greater extent than end caps heretofore used. I accomplish this increased reinforcement by providing three plies of stock, one folded from the end and one folded from each of two side walls extending from the end wall so that three plies of stock are provided at the corner locations where most usual collapsing of the reel occurs.

With reference to the drawings 10 designates the body of the reel which is formed by utilizing a core of corrugated board, there being a face strip 11 and a wavy form of corrugation 12 with a capping sheet 13 of paper and then about the entire core there is a wrapping 14 to envelop the entire core. This core and wrapping extend the complete length of the reel.

Caps designated generally 15 are provided at each end of the body and embrace the ends to stiffen the same. Each of the end caps 15 is formed from a blank designated generally 16 (see FIG. 4) which is cut out from sheet stock in the shape shown. This blank is printed and scored for folding, there being score lines 17, 17 to provide between them an end wall 18 and side walls 19, 19 extending from opposite sides of the end wall 18. Also there are scorings at 20, 20 at the ends of the end wall so that there are edge walls 21, 21 extending therefrom. Scorings also are provided at the edges of the side walls 19, 19 as at 22, 22, 22', 22' to provide flanges 23, 23', 23, 23', at opposite ends of both side wall 19. There is also a further scoring as at 24, 24 at the ends of flanges 23', 23' for folding to provide flaps or tabs 25 extending beyond two of the flanges 23' for overlapping the side walls on the opposite side of the cap to be glued thereto.

After the blank 16 is cut, printed and scored, it is folded somewhat into the form shown in FIG. 3 so that the side walls 19, 19 extend at right angles to the end wall 18 in a generally U-shape cross section. The edge walls 21 are folded at right angles to the end wall 18 to extend along the side walls 19. Then the flange 23 is folded in over the edge wall 21 at each end and then the flange 23' with the tab 25 attached is folded in over the flange 23, thus making three plies of stock at this location. These plies of stock are glued together. This is all done as the cap is being placed on the end of the body 10 and at the same time the assembler bends the flaps 25 over the opposite side wall 19 and glue which has previously been applied along the facing surfaces of the flap and the body secures the flap to the side wall and the cap in snug rela-

tion on the body. This assembly being done about the end of the body, a good tight fit is provided of this cap about the body.

The greatest pressure tending to collapse a reel of this sort has been found to exist across the edges of the cap at its junction with the end or the corner, and it is at this point that I have provided the three plies of stock which gives an unusual stiffness at this location and thus one which provides for greater strength at the corner where collapsing is most apt to occur.

I claim:

1. A reel for web material comprising a body having flat, top and bottom sides and curved side edges with a cardboard cap at its end, said cap comprising an end wall extending across the end of the reel, side walls integral with said end wall and extending therefrom in face contact with the top and bottom sides of said body and a rectangular edge wall of flat material extending at right angles to said side and end walls and in substantial tangential contact with the side edges of the body, said edge wall comprising at least two plies of material each in a single plane and of similar size and secured together and extending from at least two of the walls and in overlapping relation.

2. A reel for web material as set forth in claim 1 wherein flap means extend from one of said plies and overlap and are secured to one of the side walls of said cap.

3. A cloth reel comprising a hollow body having flat, top and bottom sides with a cardboard cap at its end, said cap comprising an end wall extending across the end of the body, side walls integral with said end wall and extending therefrom in face contact with the top and bottom sides of said body and a rectangular edge wall of flat material extending at right angles to said side and end walls and in substantial contact with the side edges of the body, said edge wall comprising three plies of material each in a single plane and of similar size and secured together and extending from three of the walls and in overlapping relation.

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