

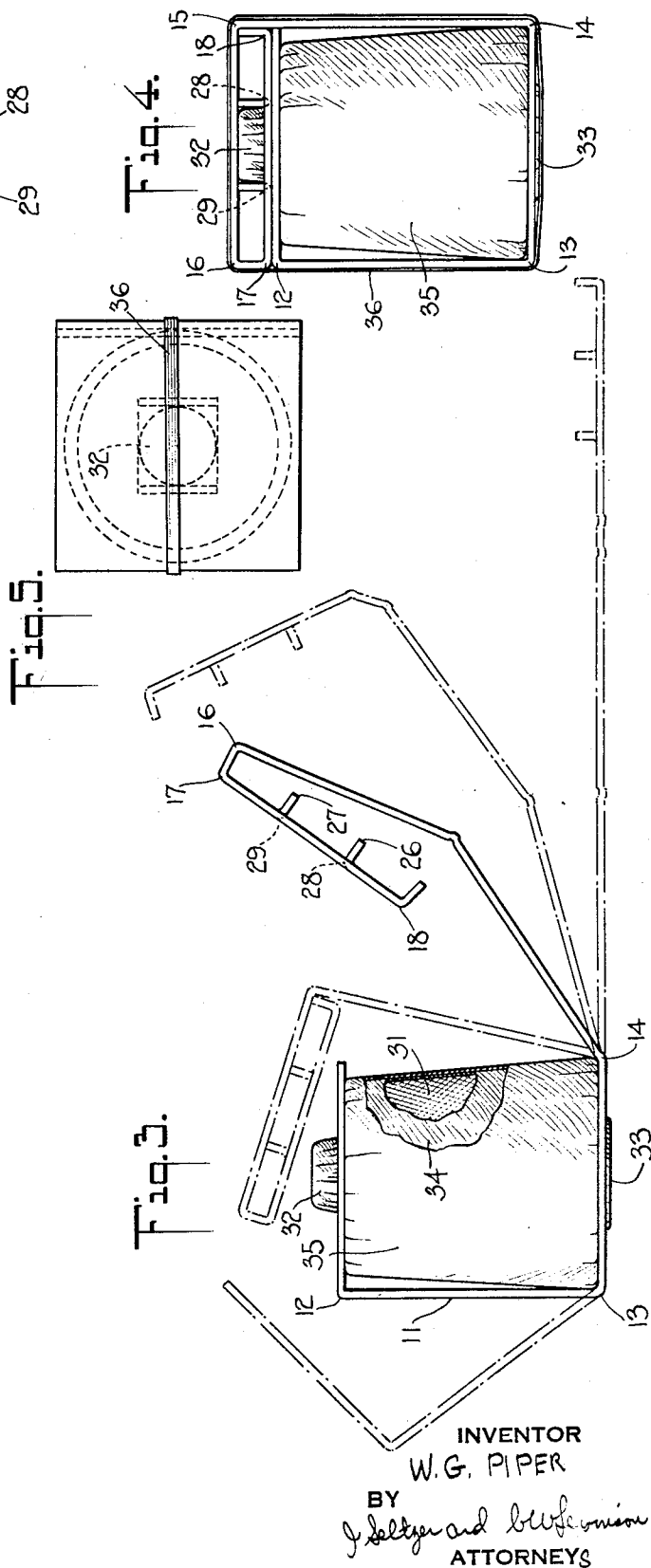
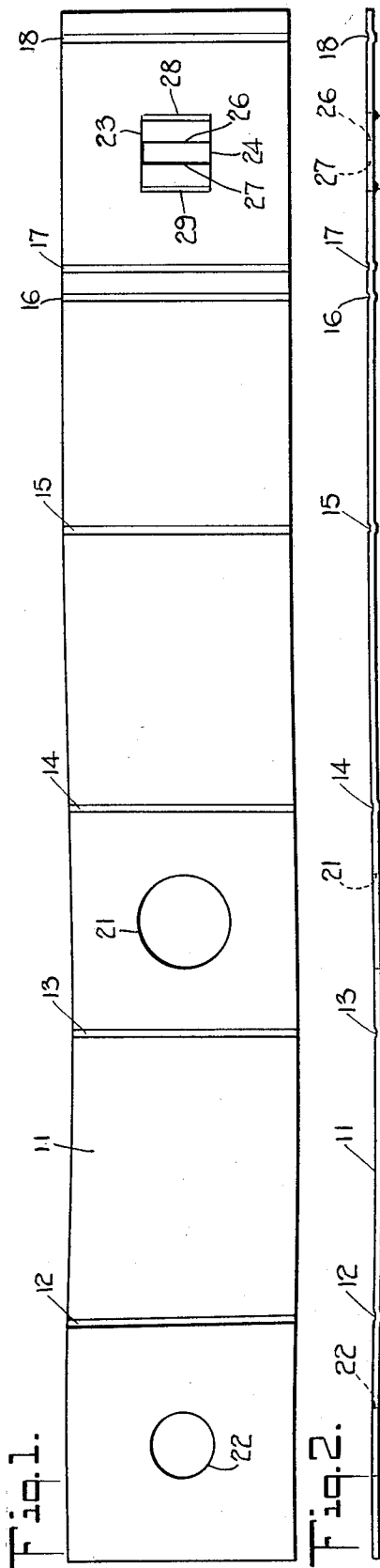
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CARTON

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## UNITED STATES PATENT OFFICE

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## CARTON

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## 4 Claims. (Cl. 206-46)

This invention is directed to the packing of cones of yarn or other articles for transport to customers.

An object of the invention is a simple and efficient carton adapted in particular to the handling of goods of the nature of cones of yarn, etc.

Another object of the invention is the process of packing articles such as cones of yarn, etc. for handling. Other objects of the invention will be apparent from the specification and drawing.

In accordance with my invention I form a carton for the packing of cones for transport to customers from a suitable material such as cardboard, plain or corrugated, and similar material, or from an easily bendable metal such as sheet iron, tin, copper, etc. The carton is so shaped that its manufacture requires a minimum of cutting and no joining or stapling yet it is very effective when applied to an article in protecting the article from injury by rubbing or otherwise contacting with adjacent articles or material and from damage, such as jags or breaking, in the course of handling and transporting. My invention is adaptable to any article of any size having a round or tapered side or a projection from one or two sides. Although my invention is adapted to the packing of glassware, light globes or similar articles, it is more particularly adapted to the packing of cones, spools or cheeses of yarn. In past years the suitable packing of cones of yarn for transport to customers has been the subject of considerable work and trial due to the ease with which the yarn is destroyed by becoming entangled by the threads rubbing off the end of the cone when it touches another article. In accordance with my invention the danger of any article rubbing on the cone of yarn is greatly reduced. My invention especially protects the projecting end of an article from damage by providing additional covering for the projection.

For added strength and ease in manufacture it is advisable, when using corrugated cardboard for the walls of the carton, to cut the strips of cardboard such that the corrugations run at right angle to the proposed bends.

In my invention the carton is supported entirely away from the article except at the base and shoulder where any rubbing between the carton and article will cause the least damage.

In the drawing in which like numbers in the various figures refer to like parts:

Fig. 1 is a plan view of the carton unfolded to a flat position,

Fig. 2 is a side elevation corresponding to Fig. 1,

Fig. 3 is a diagrammatic view of the method of placing a cone in carton,

Fig. 4 is a side elevation of a completed carton with the cone in place, and

Fig. 5 is a plan view of a completed carton with the cone in place corresponding to Fig. 4.

In accordance with my invention I prepare a carton of cardboard either plain or corrugated or like material of the easily bendable metals such as tin, iron, copper etc. If corrugated cardboard is used, it may be advisable although not essential to have the corrugations run lengthwise. The carton is formed from a rectangular strip of suitable material 11, in which are pressed indentations 12, 13, 14, 15, 16, 17 and 18 for the purpose of aiding in the bending. The strip of material has cut therein a hole 21 for receiving the base or a part of the base of the object to be packed and a hole 22 for receiving the top of the object. The strip is cut on the lines 23 and 24 and also on the lines 26 and 27. The strip is then folded on the lines 28 and 29 forming raised projections. The strip 11 may also be a triangle or it may be a four-angled strip where two or all of the angles are not right angles.

The hole 22 may be of any size depending somewhat upon the article to be packed. The hole 22 may also be of any shape, round, elliptical, square, or of any poly angular shape. Likewise the hole 21 may be of any shape or size or it may not be a hole at all but a mere indentation or it may be dispensed with entirely leaving a whole flat surface.

The size of the hole made by cuts 23, 24, 26 and 27 and the bends 28 and 29 may be of any size but preferably it is of substantially the same size as the hole 22. For the purpose of accommodating various objects the cuts 26 and 27 may be spaced any distance apart or a single cut may be sufficient depending somewhat on the space between bends 16 and 17 and the shape of the article.

The article to be packed may be a cone, spool or cheese of yarn or a like object or it may be of glass, such as a bulb, etc. or any object which is delicate and it is desired to protect it from breakage and more particularly from being rubbed in handling. It is especially desirable in the handling of silk or the artificial yarns comprising cellulose acetate or other organic deriva-

tive of cellulose on cones, spools or cheeses that these articles are well protected on the ends and also protected from any rubbing action as the yarns are very smooth and tend to slip over the ends or otherwise become entangled and unfit for efficient use.

The lines of bending may be so spaced that the base of the carton is either larger or smaller than the top thus forming a carton which in shape is that of a truncated pyramid either upright or inverted. The lines of bending may also be spaced such that the carton when folded will be of any desired height relative to its width.

Merely for the purpose of describing my invention I have shown on the drawing as the article to be packed a cone of yarn 31 the core of which projects out from either or both ends of the body of yarn as shown at 32 and 33. The article is preferably wrapped first in a paper 34 such as crepe, tissue or the like then in a water-proofing layer 35 such as waxed paper, cellulose ester or other film, creosote paper, kraft paper or the like. It is not essential to my invention that there be a projection from the base of the article as the whole base may rest in an indentation on the base fold of the carton or merely rest upon a flat surface. The top surface of the article need not have a projection if the article has a tapered or rounded top.

For the purpose of describing my invention and not as a complete description thereof the method of placing a cone of yarn in the carton will be described, reference being made to Fig. 3 of the drawing. The projection 33 of the cone is placed in the hole 21 and the material of the carton given substantially a 90° upward bend on the indentation 12 and then on indentation 13. The end fold having therein the hole 21 is slipped down around the projection of the cone 32. In this way the angle and the binding action between the rims of holes 21 and 22 and the projections on the cone tighten and hold the paper wrappings about the cone.

The flaps or projections at 26 and 27 are bent up to a vertical position on the bending lines 28 and 29. Also the end fold is bent up 90° on the folding indentation 18. The carton material is then bent up through 90° angles on both the folding indentation 17 and 16 forming a rectangular box, the centre of the top of said box being supported by braces from the bottom formed by the flaps 26 and 27.

The carton material is then folded up 90° at both indentation 15 and 14. The box-like formation formed by the folding at 18, 17, 16 and 15 is slipped down over the projection of the cone 32, the projection 32 passing through the hole formed in making the braces at 26 and 27.

The carton may be held in its folded position by a rubber band 36 passed around the carton in a direction either normal or parallel to the line of folding. In place of the rubber band an adhesive strip, such as adhesive paper or gauze, may be used or the adhesive strip need only be placed about the edge formed by the folds 12, 16 and 17. The package may also be conveniently held by replacing the rubber band with a cord.

It is to be understood that the foregoing detailed description is merely given by way of illustration and many alternations may be made therein without departing from the spirit of my invention.

Having described my invention, what I desire to secure by Letters Patent is:

1. A yarn package comprising a cone of yarn contained within a carton formed from an integral strip having a plurality of openings therein and parallel weakened portions in a surface thereof, said strip being bent along said weakened portions forming a covering for the body of the yarn on the cone and having openings therein for receiving the ends of the cone, and a separate box-like covering, having spacing members and an opening therein for receiving the upper end of the cone, adapted to protect the said upper end of the cone, said opening in the covering for the upper end of the cone being between the said spacing members and of such a size as to fit snugly over the said cone end.

2. A package comprising an article contained within a rectangular strip having seven parallel bending indentations stamped therein across one face, an H shaped cut between the sixth and seventh bending indentations, an O shaped cut between the end of the strip and the first indentation adapted to register with the H shaped cut when the strip is folded and the strip being formed between second and third bending indentations to receive the base of the article.

3. A package comprising an article contained within a strip of material bent on three lines to form a rectangle in cross-section, the fourth side of which continues beyond the first side, the continued material of the fourth side is bent at a distance beyond the first side to be over and parallel but spaced from the first side then in a direction parallel to the second side, then to lie parallel to and directly on the first side, and then in a direction parallel and adjacent to the continued fourth side, the material ending at the first bend of the continued fourth side, an H-cut between the last two bends, an O-cut on the first side registering with the H-cut and the material of the two halves of the H-cut bent upward to form braces for the topmost side.

4. A package comprising an article contained within a strip of material bent on three lines to form a four-sided figure in cross-section, the fourth side of which continues beyond the first side, the continued material of the fourth side is bent at a distance beyond the first side to lie over and parallel but spaced from the first side then in a direction parallel to the second side, then to lie parallel to and directly on the first side, and then in a direction parallel and adjacent to the continued fourth side the material ending at the first bend of the continued fourth side, an H-cut between the last two bends, an O-cut on the first side registering with the H-cut, the material of the two halves of the H-cut bent upward to form braces for the topmost side and means for holding the bends in the material in place.

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