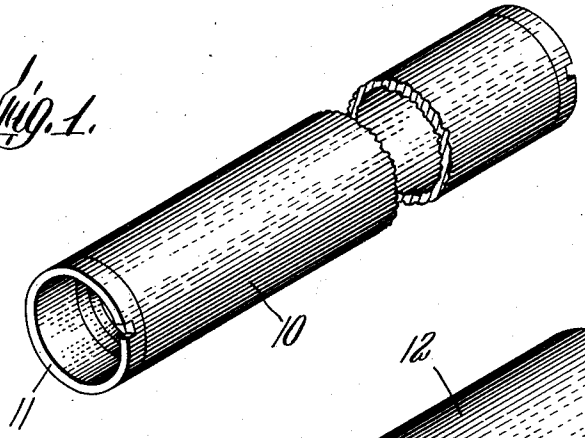
Oct. 16, 1928. 1,687,586

H. PARKER

FIBER CORE

Filed April 16, 1927

Fig. 1.



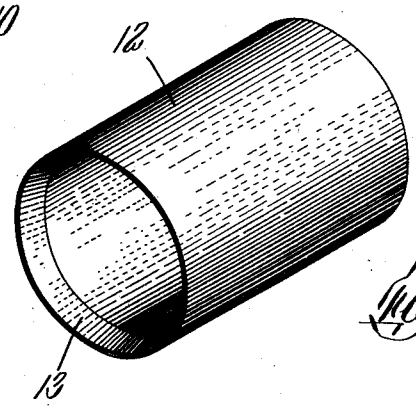


Fig. 2.

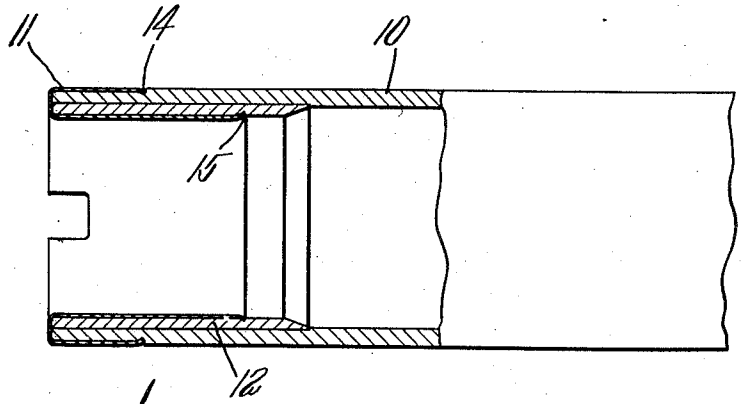


Fig. 3.

Inventor
Howard Parker
by Wright Brown Quinby & May
Attys

Patented Oct. 16, 1928. 1,687,586

UNITED STATES PATENT OFFICE.

HOWARD PARKER, OF BERLIN, NEW HAMPSHIRE, ASSIGNOR TO BROWN COMPANY, OF BERLIN, NEW HAMPSHIRE, A CORPORATION OF MAINE.

FIBER CORE.

Application filed April 16, 1927. Serial No. 184,419.

This invention relates to fiber cores of tubular shape such as are commonly used for rolls of newsprint paper and other similar purposes. Heretofore such cores have customarily been made by spirally winding separate strips of paper upon one another with paste between the plies, cutting off suitable lengths of the tube thus formed, and fitting a metal cap on each end of the cut sections, the metal cap being for the purpose of protecting the ends from injury. Laminated paper cores of this type are relatively soft in texture and must be made with relatively thick walls in order to have sufficient strength for the uses to which they are customarily put. I have found that by making tubular sections of wet pulp by winding a sheet of wet pulp upon itself in convolutions under pressure and drying the tubes so wound, a core can be produced which can be made with walls considerably thinner than those of a laminated paper tube of the same external diameter and of equal strength. Tubes made in this way are comparatively hard, rigid, and strong, and the fibrous material of their walls is practically homogeneous, no laminated or plied structure being detectable therein. Due to the widespread use of the laminated paper cores in certain industries, the metal end pieces of the paper cores have become standardized to fit certain mandrels. As these metal tips were originally shaped to fit on the thick walls of the paper tubes, such end pieces would not fit the thinner walls of my improved fiber tube. Hence in order to make possible the use of the standard end pieces with my fiber tube, I have devised a filler to fit into the ends of the fiber tubes and to thicken the walls sufficiently to fit the standard metal end piece. As a result of my invention, I provide a fiber core which is as strong as, or stronger than, the laminated paper core of the same external diameter, is lighter in weight than the paper core, and is fitted with standard metal end pieces.

For a better understanding of my invention, reference is had to the description thereof which follows and to the drawing of which,—

Figure 1 shows in perspective a fiber core embodying my invention.

Figure 2 is a perspective of one of the fillers to be inserted in an end of a fiber tube to make it fit a standard metal end piece.

Figure 3 is an elevation, partly in section, of the end portion of my improved core.

Referring to the drawing in detail, 10 represents a fiber tube of homogeneous fibrous material preferably made by winding a sheet of wet pulp fiber upon itself in convolutions under pressure to build up the requisite thickness of wall and external diameter. Such a tube is thereupon dried in such a way as to maintain its true cylindrical shape and may thereafter be treated with a sizing or saturant as desired. To increase the wall thickness at the ends of the tube to which standard metal clips 11 are to be attached, I insert a filler 12 which may comprise a short cylindrical member, preferably of the same material as the tube 10, and of a size to form a driving fit within the tube 10. The fillers 12 may be made on a tube machine in exactly the same manner in which the tubes 10 are made, the smaller tubes then being cut up into appropriate lengths and if desired beveled as at 13 within one end thereof. If desired, the exterior surface of the fillers 12 may be coated with an adhesive prior to their insertion into the ends of tubes 10. After the fillers 12 are in place, the adjacent external end surfaces of the filler 12 and tube 10 may be made flush and a cap or end piece 11 fitted on as shown in Figure 3. These cap pieces 11 are preferably of standard size and shape and as usual are preferably secured in place as by turning the edges into the fiber as at 14 and 15. As will be seen, I have thus provided a superior fiber core which is of standard external diameter and which has standard metal ends so that it can be used in place of the laminated paper core which has hitherto been used, without necessitating any change in size or shape of mandrels or other machine parts heretofore customarily used in connection with the paper cores.

Having thus described a certain embodiment of my invention, it should be evident to those skilled in the art that various changes and modifications may be made therein without departing from its spirit or scope as defined by the appended claims.

I claim:—

1. A fiber core comprising a relatively thin-walled fiber tube, a short tubular filler having an internal diameter substantially equal to that of a standard paper core fitted within each end portion of said tube, and annular metal end pieces fitted on the ends of the composite structure thus formed.

2. A fiber core comprising a relatively thin-walled tube having substantially the same external diameter as a standard paper core, the wall of said tube being of homogeneous interfelted fibrous material, a short tubular filler of homogeneous fiber fitted within each end of said tube, the combined thickness of the tube and filler being substantially equal to the wall thickness of a standard paper tube, and a metal end piece fitted over each end of the tube and engaging the outer surface of the tube and the inner surface of the filler.

In testimony whereof I have affixed my signature.

HOWARD PARKER.