

No. 775,513.

PATENTED NOV. 22, 1904.

R. BINNS.
PULP WEB AND SPOOL.
APPLICATION FILED FEB. 23, 1904.

NO MODEL.

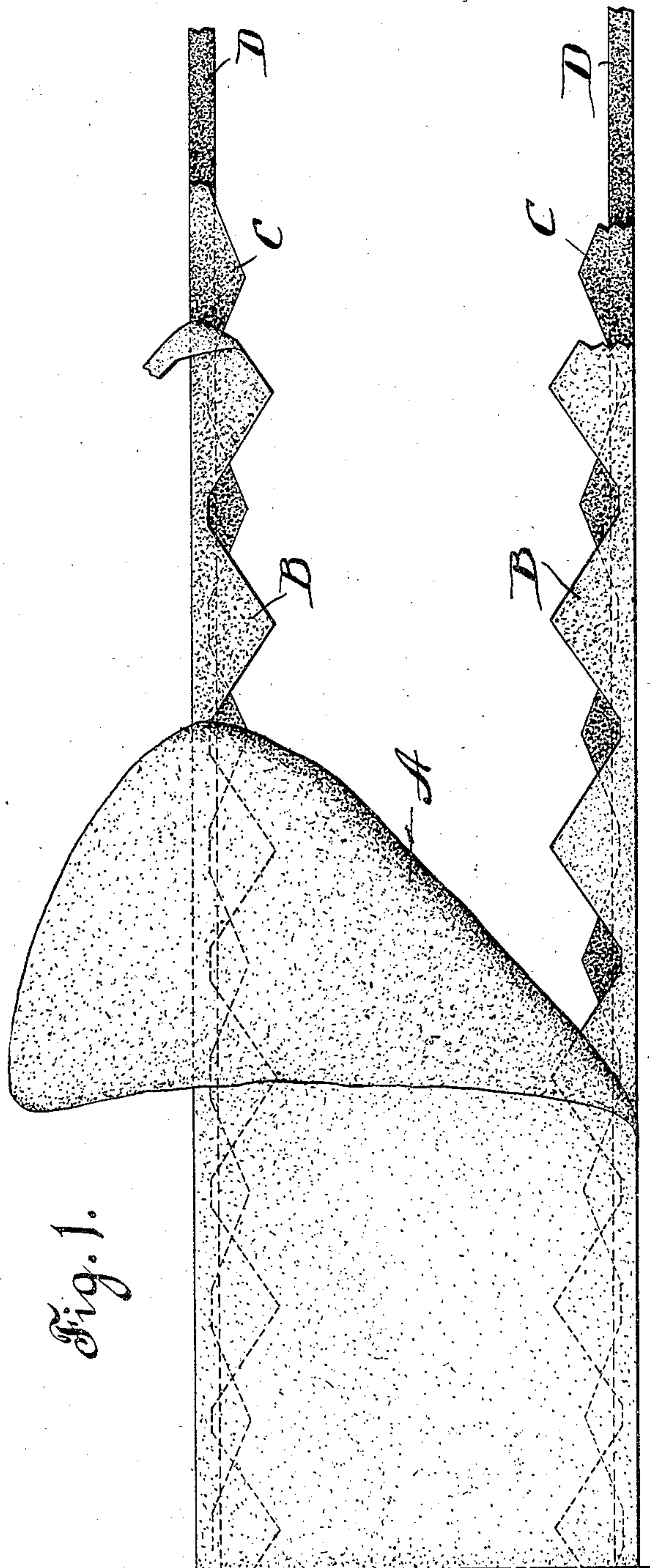


Fig. 4.

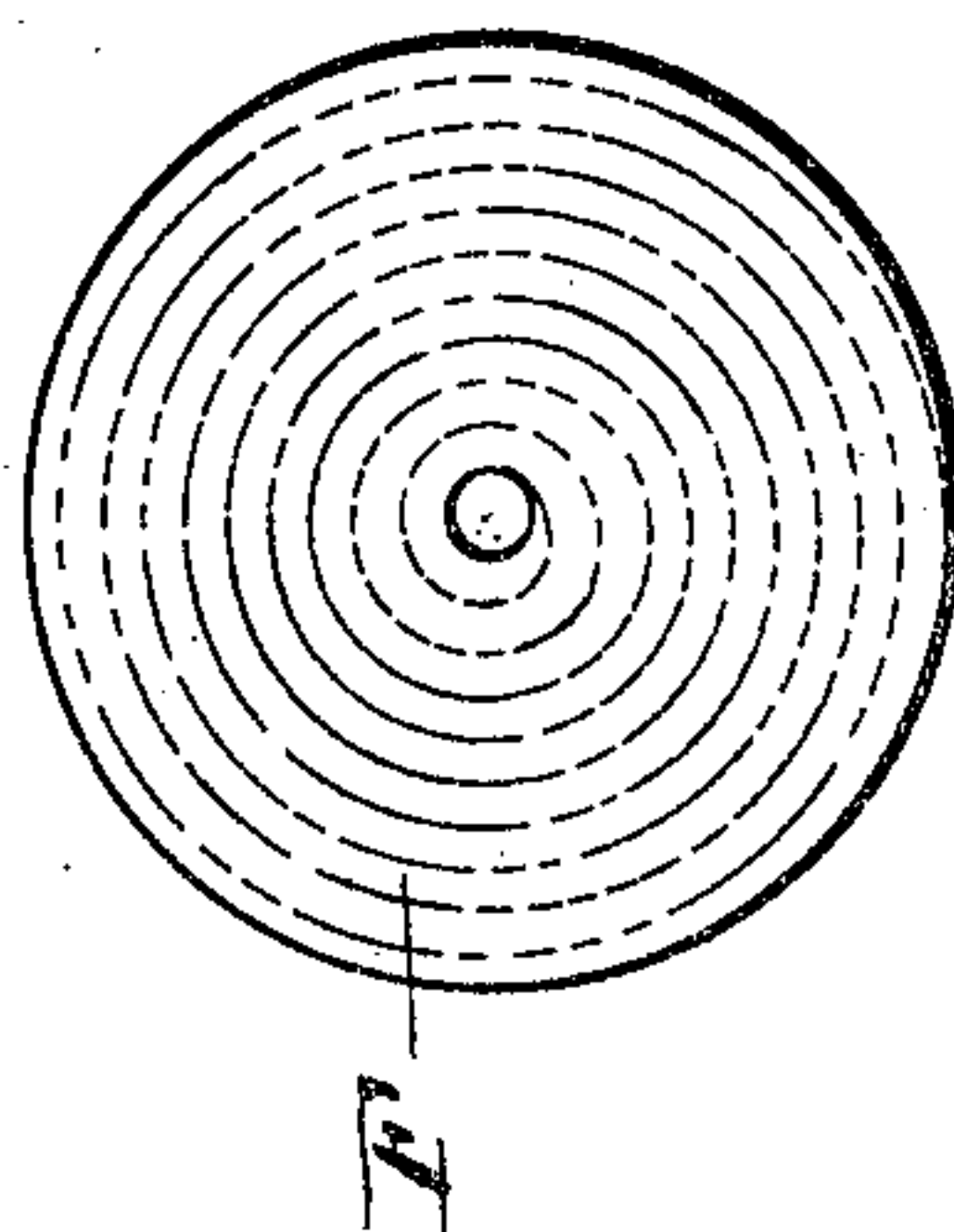


Fig. 3.

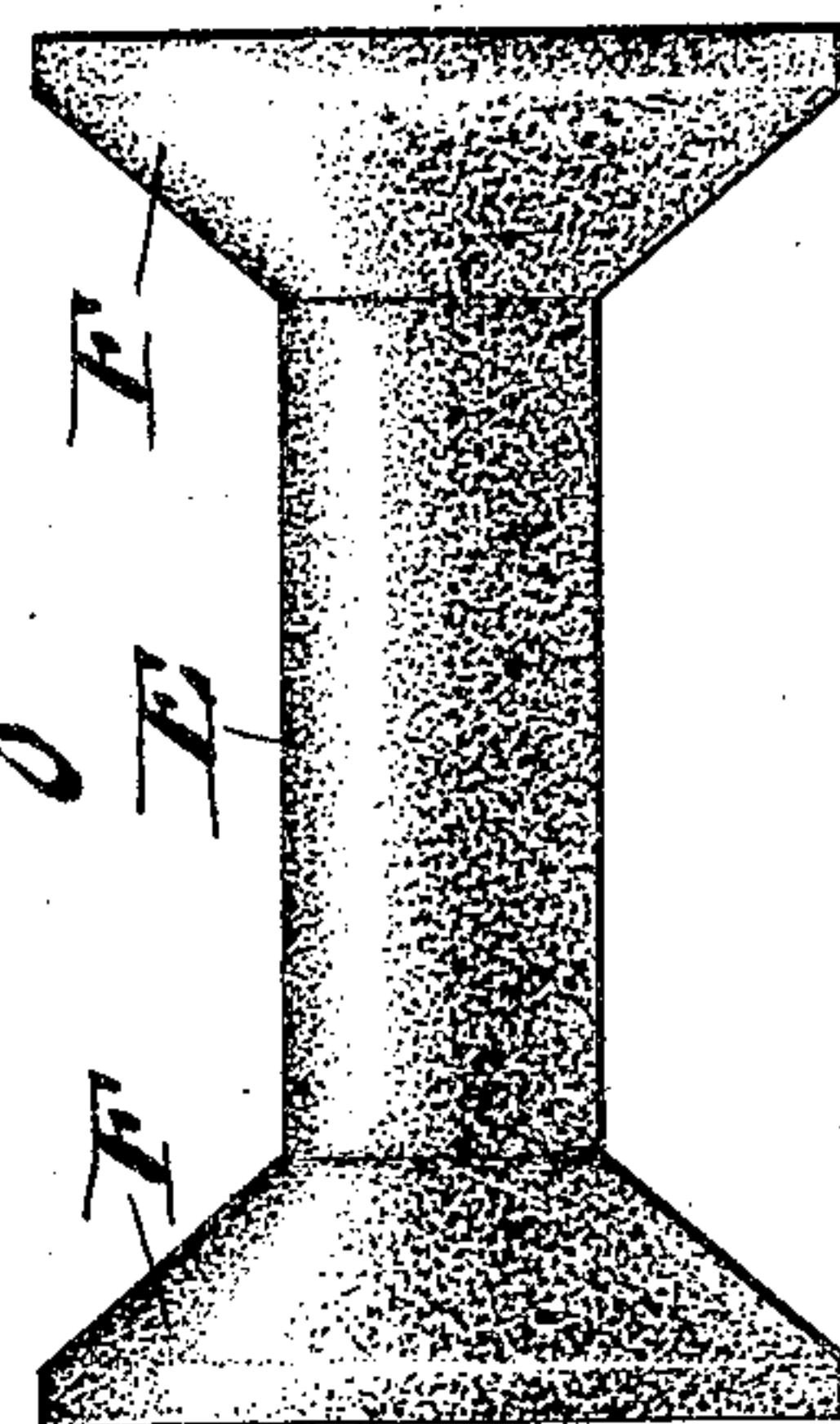
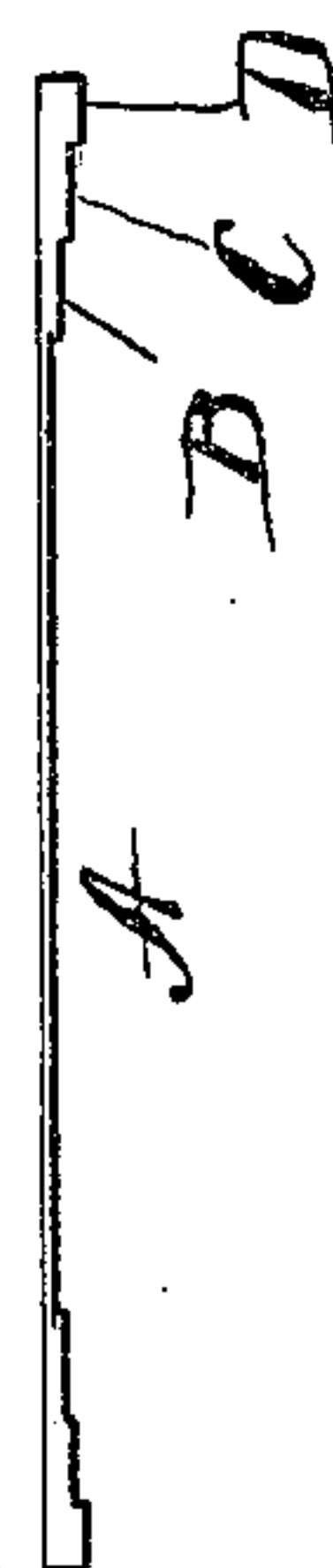


Fig. 2.



Witnesses
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ROBERT BINNS, OF SOUTH WINDHAM, CONNECTICUT.

PULP WEB AND SPOOL.

SPECIFICATION forming part of Letters Patent No. 775,513, dated November 22, 1904.

Application filed February 23, 1904. Serial No. 194,789. (No model.)

To all whom it may concern:

Be it known that I, ROBERT BINNS, a citizen of the United States, residing at South Windham, in the county of Windham, State of Connecticut, have invented certain new and useful Improvements in Pulp Webs and Spools, of which the following is a full, clear, and exact description.

My invention relates to the manufacture of spools and the like, and particularly to a pulp web from which spools may be formed.

In the drawings, Figure 1 is a plan view of a pulp web with parts turned back to show how the same may be built up. Fig. 2 is an end elevation of said web to indicate the thickened or reinforced opposite edges. Fig. 3 is a side view of a spool as constructed from said web. Fig. 4 is an end view of said spool.

In separate applications, Serial Nos. 194,787 and 194,788, I have shown, described, and claimed apparatus for producing the reinforced pulp web herein referred to and for winding the same so as to produce a spool.

In this application, A represents the basic or body portion of the pulp web, which is of substantially uniform thickness throughout. The opposite edges of this web are reinforced and thickened, so that when the web is wound upon itself and pressure is applied to the surface thereof the intermediate or basic portion of the web will produce a cylindrical body, while the thickened edges of the web will build up and form integral tapered heads of greater diameter than said cylinder-body. In the preferred form the reinforcements to the web are formed by layers of pulp superimposed along the edges of the basic web. B B represent these reinforcements applied directly to the basic web A. C C are additional reinforcements slightly narrower than the first and applied along the opposite edges of said basic web—for example, on top of the reinforcements B B. D D are further reinforcements, still narrower and constituting the final border strip in the particular form shown in the drawings. Of course the number of reinforcing layers and the thickness of said reinforcements is immaterial. These successive reinforcements gradually increase the thickness of

the web, so that when said web is wound convolutely on itself it will build up the spool-heads of conventional form. In order to get a smooth or even pitch to the tapered walls of the head portions, I preferably cause one or more of the reinforcements to be fluted or saw-toothed along the opposite edges, the points being spaced apart, preferably at even intervals. In Figs. 3 and 4 I have shown a spool formed by winding the pulp web of Figs. 1 and 2 upon itself or convolutely.

In winding the web a suitable mandrel is introduced as a core or support for the underlying layer. Suitable pressure may be applied to the outer surface of the web as it is being wound, so that each layer will hug closely to the underlying layer. It is preferable that an adhesive material be applied to one surface of the web, so that the successive layers will be bound firmly together in the finished article or spool.

What I claim is—

1. A pulp web comprising a body or basic portion and a reinforcement of pulp at the edge thereof, the quantity of said reinforcing-pulp gradually increasing toward said edge.

2. A pulp web comprising a basic or body portion, a reinforcement of pulp thereon at opposite edges thereof, the quantity of said reinforcing-pulp gradually increasing toward said edges.

3. A pulp web comprising a basic or body portion, a reinforcement thereon at opposite edges thereof, one edge of said reinforcement being fluted or saw-toothed in outline.

4. A pulp web comprising a basic or body portion, a reinforcement thereon at opposite edges thereof said reinforcements being fluted or saw-toothed in outline along the opposite inner edges thereof.

5. A pulp web comprising a basic or body portion, a reinforcement thereon at opposite edges thereof said reinforcements being fluted or saw-toothed in outline along opposite inner edges, the points of said fluted edges being spaced apart at even intervals.

6. A pulp web comprising a basic portion, a reinforcement thereon at the edge thereof said web being wound upon itself to form a

cylindrical body and an integral tapered head at one end thereof of greater diameter than said body.

7. A pulp web comprising a basic or body portion, a reinforcement thereon at each edge thereof said web being wound to form a cylindrical body portion and an integral head at each end thereof and of greater diameter than said body.

8. A pulp web comprising a basic or body portion, a reinforcement at one edge thereof

the inner edge of said reinforcement being toothed in outline said web being wound upon itself to form a cylindrical body and an integral head of greater diameter than said body and having an even taper or flare.

Signed at South Windham, Connecticut, this 17th day of February, 1904.

ROBERT BINNS.

Witnesses:

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