

May 5, 1925.

1,536,533

W. E. SHEEHAN

WET WEB CARRIER FOR PULP AND PAPER MACHINES

Filed April 1, 1924

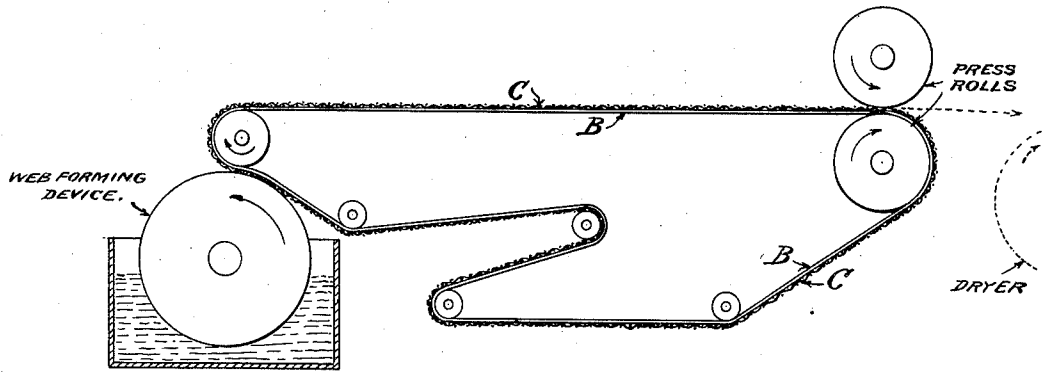


Fig. 1.

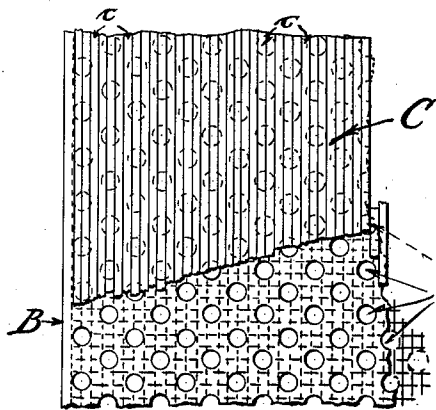


Fig. 2.

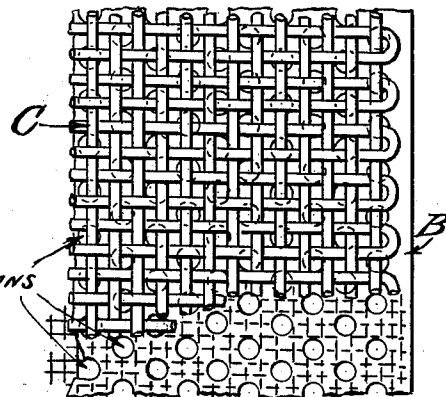


Fig. 4.

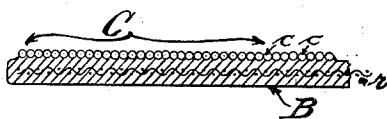


Fig. 3.

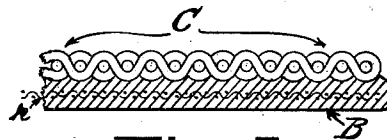


Fig. 5.

INVENTOR.

*William E. Sheehan*

BY

*Ernest D. Jansen*

ATTORNEY.

Patented May 5, 1925.

1,536,533

# UNITED STATES PATENT OFFICE.

WILLIAM E. SHEEHAN, OF ALBANY, NEW YORK.

WET-WEB CARRIER FOR PULP AND PAPER MACHINES.

Application filed April 1, 1924. Serial No. 703,368.

*To all whom it may concern:*

Be it known that I, WILLIAM E. SHEEHAN, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Wet-Web Carriers for Pulp and Paper Machines, of which the following is a specification.

My present invention relates to web picking and web carrying means for all kinds of papermaking machines, or other machines which are designed to handle plastic pulp in a web or sheet.

The object of this invention is to provide web picking and web supporting and carrying means which will withstand greater strains, and wear longer, than will the usual papermakers' felts now utilized for such purposes. In the accomplishment of my object I make use of a strong, resilient, cushioning base provided with a covering of woven fabric, preferably of wool, or with a plurality of wool yarns laid on the base in any desired pattern.

My improved web-picking and web-carrying means is illustrated by the accompanying drawings, in which:

Fig. 1 is a diagram of a pulp or paper machine equipped in accordance with this invention; Fig. 2 is a plan view of a portion of one of my improved web-carrying means; Fig. 3 is a cross-section of the same; Fig. 4 is a plan and Fig. 5 is a cross-section of one form of my invention.

The same reference characters refer to the same parts throughout the views.

Referring to the drawings, B represents the cushioning base which may be of any suitable resilient material, such as rubber. This base may be either solid or perforated, and either plain or reinforced, as for instance by having a suitable fabric incorporated therein. To the top of the cushioning base B, is laid, and strongly attached thereto, a covering C of woven fabric or of a plurality of yarns laid in any desired pattern, as for example, the yarns *c, c*, laid side by side lengthwise of the base as illustrated in Figs. 2 and 3. This covering may be secured to the base in any suitable manner, as for example, by the use of a strong adhesive, or by being rolled or otherwise pressed into the surface of the rubber while it is in a plastic state.

My invention is intended to supersede the use of all kinds of woven felts such as are

now used in the manufacture of pulp and paper for the purpose of handling the web of pulp while in a moist state, and which are known in the art as paper makers felts. My invention is adaptable to all uses to which such felts are put from the initial removal of the web of wet pulp from the web forming device, to its delivery to the dryers.

When my improved web-carrier is to be used for initially removing the web of pulp from the web forming cylinder of a cylinder machine, or for carrying the plastic web from the web forming wire of a Fourdrinier machine, to and through the press rolls, the cushioning base is to be perforated for the purpose of permitting the free escape of water from the web when it is acted upon by those rolls. The covering which is laid on and attached to this cushioning base (which is to take the place of the usual drainage felt) will be composed of a plurality of smoothly laid yarn, or a smoothly woven and laid fabric. The surface of either type of covering being given a surface finish which will produce the desired finish on the web being produced.

When my improved web carrier is to be used in place of what is known as a "pick up" felt, one purpose of which is to pick the web of moist pulp off of the drainage felt and deliver it through the press rolls to the dryers, the cushioning base will be without perforations and the covering will be composed of a plurality of smoothly laid yarns, or a smoothly woven and laid fabric, in either case the surface will not be napped.

While I now prefer to make use of a covering composed of a plurality of individual yarns, a woven fabric may be substituted on either the solid or the perforated cushion base; the finish given the working face of the fabric depending on the class of service for which it is to be used.

A web picker, or a drainage type of web carrier, constructed in accordance with my invention is comparatively inexpensive to manufacture, and will withstand wear for a much longer period than will the usual papermakers' felt designed for the same service. Making use as I do of a cushioning base which lends itself to easy reinforcement, it is a simple matter to so construct my improved web carrier that it will withstand more than the usual strain to which it will be subjected in the service for which it is designed; and I am thus enabled to

greatly reduce the cost by reducing the amount of wool which is normally required to produce the usual wet web carrier or papermakers' felt.

5 Perhaps the greatest advantage of my improved wet web carriers lies in the fact that they are free from virtually all of the defects which are inherent in the usual paper-  
 10 makers' felts used for the same purposes. My carriers will not stretch out of shape, or stretch unduly at any one point in its width as will the usual felt carriers; they are not  
 15 subject to the development of "pockets" which defect occurs in the usual felt carriers and is due to uneven felting, nor to "stretched edges" which may be caused by the felt not running true in the machines; and in my carriers the nature of the cushion-  
 20 ing base is such that it must run true unless the machine itself is defective, and so will prevent any appreciable change in the relative positions of the yarns forming the covering, or any appreciable change in the porosity or available drainage through the  
 25 carrier. In the usual felt carriers a change in the relative positions of the yarn forming the fabric, such as takes place when such a carrier does not run true, will change the effective porosity of the carrier.

30 I claim:

1. In pulp and paper machines the combination of a web forming device, press rolls, and conveying means adapted to con-

vey the wet web of pulp from the web forming device to and between the press rolls 38  
 said means including an endless base of a resilient material, such as rubber, having a covering of yarns attached to the surface thereof.

2. In pulp and paper machines the combination of a web forming device, press rolls, and conveying means adapted to convey the wet web of pulp from the web forming device to and between the press rolls said means including a perforated endless base 45  
 of a resilient material, such as rubber, having a covering of yarns attached to the surface thereof.

3. A wet web carrier for use in pulp and paper machines, comprising an endless base 50  
 of resilient material, such as rubber, with a covering of yarns securely attached to the surface thereof.

4. A wet web carrier for use in pulp and paper machines, comprising a perforated 55  
 endless base of a resilient material, such as rubber, with a covering of yarns securely attached to the surface thereof.

5. A wet web carrier for use in pulp and paper machines, comprising a perforated 60  
 endless base of a resilient material such as rubber with a woven fabric securely attached to the surface thereof.

In testimony whereof I have affixed my signature.

WILLIAM E. SHEEHAN.