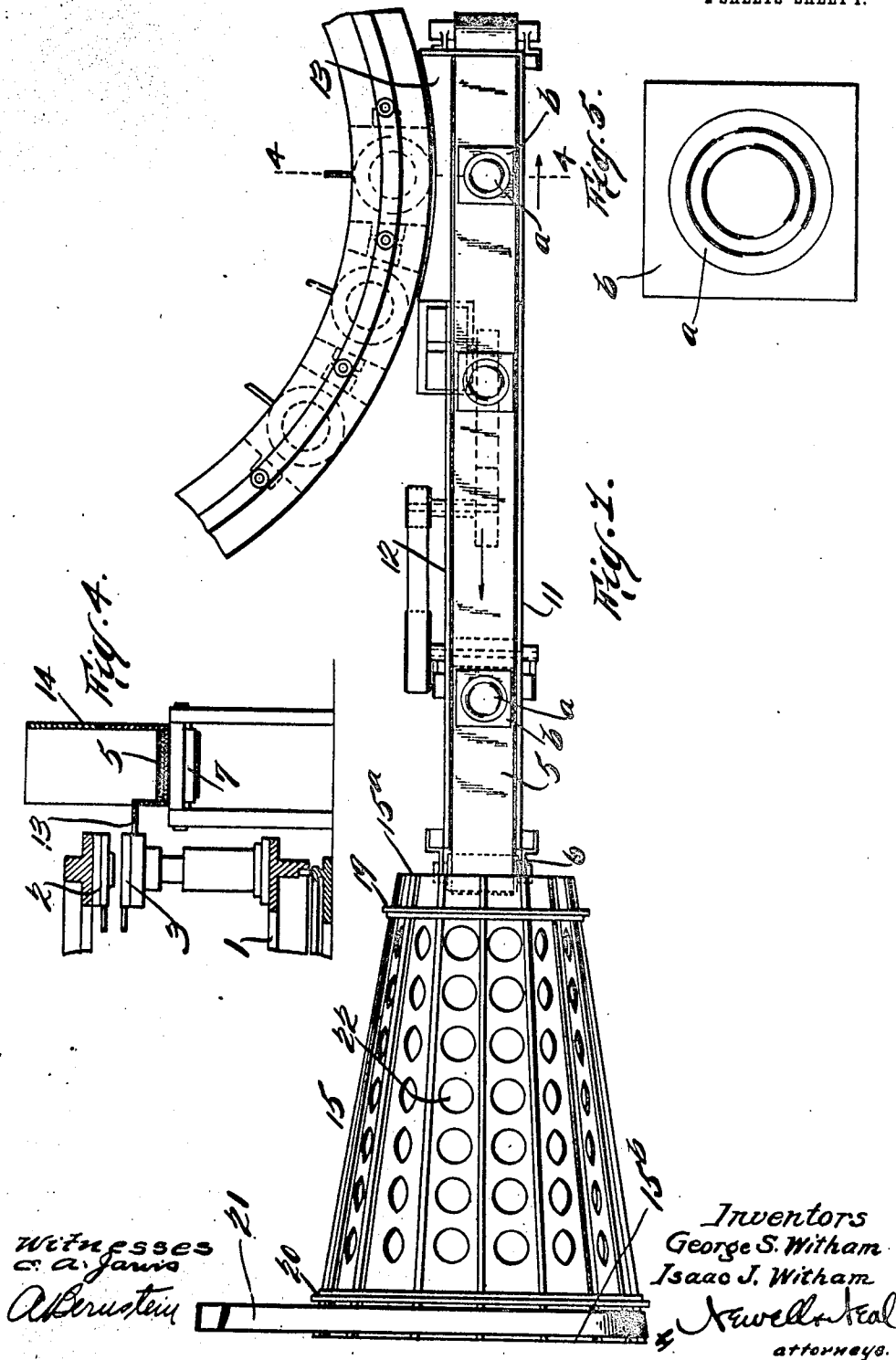


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APPARATUS FOR DELIVERING AND TRIMMING PULP ARTICLES.
APPLICATION FILED MAR. 22, 1912.

1,052,114.

Patented Feb. 4, 1913.

2 SHEETS—SHEET 1.



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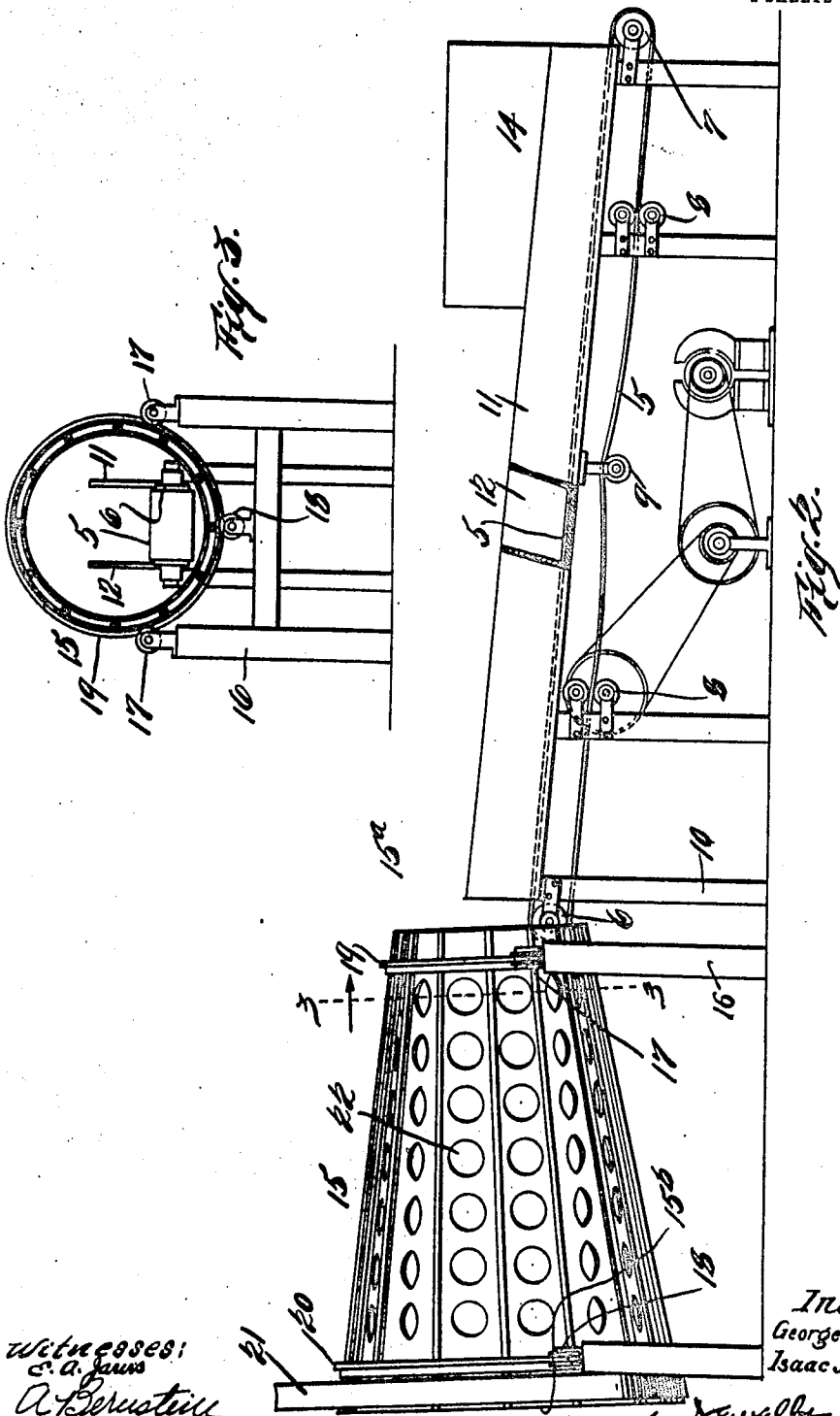
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UNITED STATES PATENT OFFICE.

GEORGE S. WITHAM AND ISAAC J. WITHAM, OF HUDSON FALLS, NEW YORK, ASSIGNORS TO THE UNION BAG & PAPER COMPANY, A CORPORATION OF NEW JERSEY.

APPARATUS FOR DELIVERING AND TRIMMING PULP ARTICLES.

1,052,114.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed March 22, 1912. Serial No. 685,625.

To all whom it may concern:

Be it known that we, GEORGE S. WITHAM and ISAAC J. WITHAM, citizens of the United States, residing at Hudson Falls, New York, have invented certain new and useful Improvements in Apparatus for Delivering and Trimming Pulp Articles, of which the following is a clear, full, and exact description.

This invention relates to an apparatus for delivering and trimming pulp articles, and may be used in connection with those machines for making articles of paper pulp which machines are provided with a mold comprising two sections to form the pulp article and from which mold the article is to be delivered and the pulp parts which may be attached to the edge of the article trimmed off or removed.

One of the objects of the present invention is to deliver from such a machine, the pulp article to be trimmed.

Another object is to provide means for trimming off or removing the clinging portions at the edge of the formed pulp articles and for separating the trimmings from the pulp articles.

Other objects are to provide simple and practical means for accomplishing the said purpose.

These being among the objects of the present invention, the same consists of certain features of construction and combinations of parts to be hereinafter described with reference to the accompanying drawings illustrating a suitable embodiment of the invention, and in which—

Figure 1 is a plan view of the improved apparatus shown in connection with a portion of a machine for making articles from paper pulp; Fig. 2 is a side elevation of the apparatus; Fig. 3 is a section on the line 3—3 Fig. 2; Fig. 4 is a section on the line 4—4 Fig. 1; and Fig. 5 is a plan of a pulp article with the attached parts which are to be removed.

Fig. 5 shows a plate *a* made from paper pulp with the remainder *b* of the sheet of pulp, from which said plate has been

formed, attached. A paper pulp plate is only cited as one instance of a pulp article which may be treated by the improved apparatus of the present invention. In the formation of the pulp article such as a plate, the attachment of the surrounding portion *b* which is to be removed is greater than at other times and frequently the degree of attachment varies. The machine for making the pulp article is intended to permanently define the outline of the ultimate article and means are provided under the present invention to break the attached portions away from the defined edge of the pulp article and to leave the edge in first class condition.

The drawings illustrate a portion of a machine for making articles of paper pulp, see Figs. 1 and 4, and such machine may comprise a turn table 1 and mold sections 2, 3, supported on such turn table and provided with suitable means of operation forming no part of the present invention. Of course the machine is provided with means for opening up the sections of the mold so that the formed pulp article may be removed. An accessory to the present invention and to said machine may be a blast nozzle 4 so located at one side of the sections of the mold as to enable a blast to blow the formed pulp article from between the open mold sections and to discharge the same outwardly from the machine. The pulp article with the untrimmed edge portions is delivered from the machine for making the article, upon a belt conveyer 5 which is supported in a suitable manner as by end rollers 6, 7, and guide rollers 8, 9, from a frame 10. The said conveyer belt 5 is substantially horizontal although it may be inclined more or less and its upper lap runs between side walls 11, 12, arranged parallel with each other and supported on the frame 10, so that in substance the upper lap of the conveyer belt and the side walls 11, 12, constitute a trough with a traveling bottom.

At the receiving end of the conveyer belt 5, there is mounted upon the frame 10 a guard apron 13 which is suitably supported

by said frame in horizontal position and is intended to substantially fill the gap between the receiving end of the belt or frame and the machine 1, 2, 3. The said guard apron 13 is intended to prevent pulp articles delivered from the machine 1, 2, 3, from falling between the latter and the frame or belt, and to compel the pulp articles to be delivered on to the conveyer belt. Opposite the blast nozzle or delivery device 4, there is supported above the frame 10 an intercepting wall 14 at the offside of the conveyer belt and said wall may be formed as a continuation of the side wall 11 or may be a separate wall attached to the frame. The upper lap of conveyer belt 5 travels in the direction of the arrow *w*, Fig. 1, for the purpose of delivering the pulp articles one at a time as they are delivered from the machine for making them, into a tumbling barrel 15; see Figs. 1, 2, and 3. The said tumbling barrel may be supported upon a part of the frame 10 or upon a separate frame 16 which is provided with suitably arranged grooved rollers 17, 18, the grooves of which receive the edges of the rings or annular rails 19, 20, which are fixed upon opposite ends of the said tumbling barrel. The said barrel may be rotated as by belt 21 so as to turn the barrel with the articles contained in it. The said tumbling barrel 15 is of frusto-conical shape, the smaller receiving end 15^a being properly located relatively to the conveyer belt 5 to permit said belt to deliver the pulp articles into the barrel. The opposite larger end 15^b of said barrel constitutes the discharge end for the trimmed pulp articles. In the drawings the said barrel is shown as inclined on its longitudinal axis and this facilitates the discharge of the trimmed pulp articles. The tumbling barrel is provided with a series of openings 22 and these openings while comparatively large are not as large as the pulp article such as *a*, Fig. 5, after it has been trimmed. Yet the openings are of such size as that the edge portions such as *b*, Fig. 5, which are trimmed off may fall through the openings. The tumbling barrel is in the nature of a rotary screen with large openings.

The operation of the described apparatus for delivering and trimming pulp articles is as follows: As soon as a pulp article has been produced in the machine such as 1, 2, 3, and the mold sections have opened, the blast from the nozzle 4 immediately discharges the article from the machine on to the receiving end of conveyer belt 5. This belt is driven in any suitable manner as shown in Fig. 2. The untrimmed pulp articles such as *a*, *b*, Fig. 5, are delivered one at a time into the tumbling barrel 15 and as this barrel rotates, the pulp articles are shaken and tumbled about within the bar-

rel until ultimately all of the portions such as *b* are trimmed off of the formed articles and dropped through the openings 22 which are not so large as to permit the trimmed pulp articles to fall through. It will be understood that these articles are exceedingly light and that the parts to be trimmed off are attached to the pulp article so slightly that the articles can be trimmed very readily and conveniently in a tumbling barrel such as described and shown. The trimmed pulp articles are discharged or removed from the outlet end 15^b of the tumbling barrel.

What we claim as new is:

1. In apparatus for delivering and trimming pulp articles, the combination with a machine for making pulp articles, of a conveyer, means for delivering the pulp articles from said machine onto said conveyer, and means for removing the pulp portions attached to the edges of said articles and to which means said conveyer leads.

2. In apparatus for delivering and trimming pulp articles, the combination with a machine for making pulp articles, of a conveyer, means for delivering the pulp articles from said machine onto said conveyer, and a tumbling barrel, to which said conveyer conducts said articles, for removing the pulp portions attached to the edges of said articles.

3. In apparatus for delivering and trimming pulp articles, the combination with a machine for making pulp articles, of a conveyer, means for delivering the pulp articles from said machine onto said conveyer, a guard-apron between said machine and conveyer, and means for removing the pulp portions attached to the edges of said articles and to which means said conveyer leads.

4. In apparatus for delivering and trimming pulp articles, the combination with a machine for making pulp articles, of a conveyer, means for delivering the pulp articles from said machine onto said conveyer, an intercepting wall above the far side of said conveyer to compel the pulp articles to fall onto said conveyer, and means for removing the pulp portions attached to the edges of said articles and to which means said conveyer leads.

5. In apparatus for delivering and trimming pulp articles, the combination with a machine for making pulp articles, of a conveyer, means for delivering the pulp articles from said machine onto said conveyer, and an inclined frusto-conical tumbling barrel having its smaller receiving end presented to the discharge end of said conveyer.

6. In apparatus for delivering and trimming pulp articles, the combination with a machine for making pulp articles, of a conveyer, means for delivering the pulp articles

from said machine onto said conveyer, and
a tumbling barrel, to which said conveyer
leads, provided with large openings of some-
what less size than the trimmed pulp arti-
cles so that the portions removed from said
5 articles by said barrel will fall through said
openings.

Signed at Hudson Falls, N. Y., this 18
day of March, 1912.

GEORGE S. WITHAM.
ISAAC J. WITHAM.

Witnesses:

F. T. PARKER,
JAMES M. FERRIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."