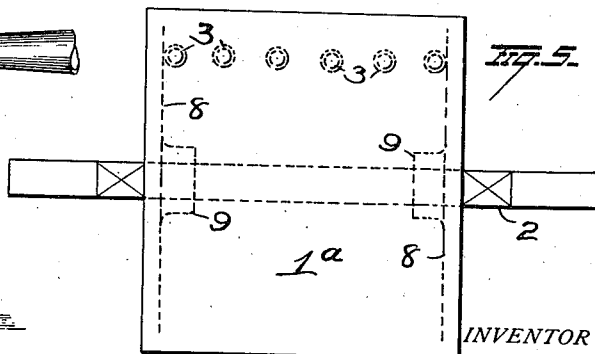
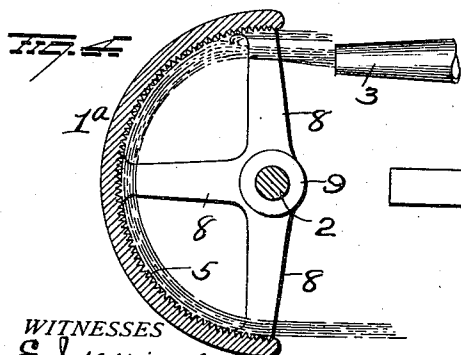
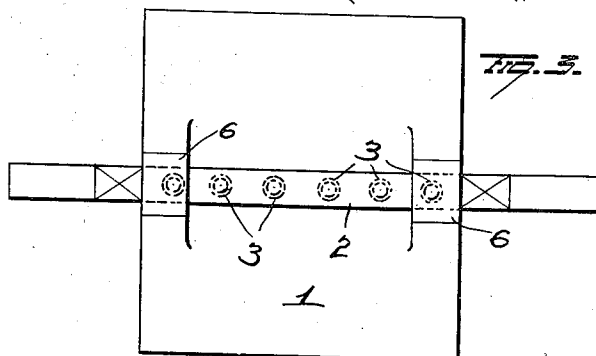
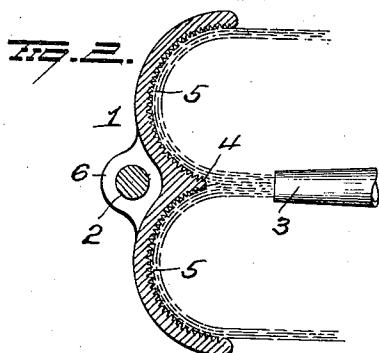
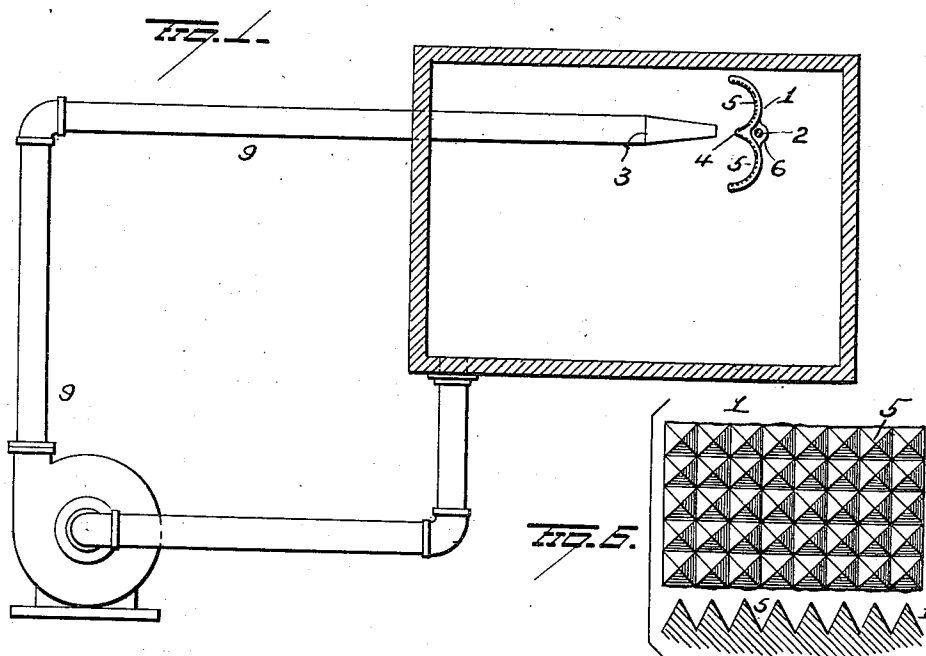


W. H. STOBIE.  
 APPARATUS FOR DISINTEGRATING PULP.  
 APPLICATION FILED NOV. 27, 1912.

1,123,033.

Patented Dec. 29, 1914.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. STOBIE, OF WATERTVILLE, MAINE.

## APPARATUS FOR DISINTEGRATING PULP.

1,123,033.

Specification of Letters Patent.

Patented Dec. 29, 1914.

Application filed November 27, 1912. Serial No. 733,892.

*To all whom it may concern:*

Be it known that I, WILLIAM H. STOBIE, of Waterville, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Apparatus for Disintegrating Pulp; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in apparatus for disintegrating pulp, the object being to provide improved means for dividing or separating the fibers of the stock without breaking or cutting them, thereby producing a stock that will felt better and more uniformly than the stock from an ordinary beating engine, and my invention consists in a concave target, and a nozzle or plurality of nozzles for forcibly ejecting the stock against a serrated concave face of the target whereby the stock will be caused to follow the curvature of the face and in contact with the serrations or teeth thereon.

My invention further consists in the details of construction as will be more fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a diagrammatic representation of an apparatus embodying my invention. Fig. 2 is a view in vertical section of one form of target. Fig. 3 is a view in rear elevation of same. Fig. 4 is a view in vertical section of another form; Fig. 5 is a view in rear elevation of the same and Fig. 6 is a view in elevation and section of the serration or teeth on the inner concave face of the target.

1 represents the target made of metal, emery or other suitable material, and centrally secured on a shaft 2, the latter projecting at the ends of the target so as to permit the shaft and the target thereon, to be adjusted longitudinally in order to bring unworn surfaces of the target in line with the nozzles 3. The front face of the target is provided with a central longitudinal ridge 4 preferably pointed or rounded at its edge, and with concave depressions or gutters 5 on opposite sides of the ridge and extending lengthwise the target. The inner concave surface or surfaces of the target are serrated or toothed as shown in Fig. 6, and the nozzles 3 are located in the plane of the ridge 4, so that the stock as it is forcibly ejected from the nozzle, will be divided,

part traveling over the serrated face of each concave surface of the target. By thus dividing the stream of pulp into two parts, each part or stream will be comparatively shallow thus permitting of repeated contact of the fibers with the teeth, before the stock finally leaves the toothed surface.

With the construction above described the shaft 2 passes through brackets 6 integral with the rear face of the target.

In the construction shown in Figs. 4 and 5, I have shown a target 1<sup>a</sup> with a single concavity, approximately a semi-circle in cross section, with the nozzles located in a plane slightly below the top so as to prevent any outward splash and cause the entire stream to traverse the serrated face throughout the diameter of the latter. This concave target is preferably provided at its ends with spokes 8 the latter having hubs 9 in which the shaft 2 is secured. The target is preferably located in a vat containing the paper stock which has previously been mixed with a proper proportion of water to reduce it to a consistency where it can be readily pumped and conveyed through pipes 9 to the nozzles 3 which as previously explained are so located to discharge the stream against the concavity in the target and tangentially thereto. Where the targets are located in the vats, the stock falls back into the vat and will be again carried around and projected against the targets until the stock is in proper condition for felting. The targets may however be located outside the vats, so that the stock, after one contact with the target, may be collected and carried off for the next step in the process. The action of the serrated or toothed face on the stock, is to divide or separate the fibers without breaking or cutting them or reducing their length, and experiments have demonstrated that stock can be prepared, by this apparatus for the paper machine without any treatment whatsoever in the old style of beaters.

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. In apparatus for disintegrating or dividing fibrous paper stock the combination of a tank, a target, supporting means for the latter constructed to permit the target to be adjusted with the relation to the nozzle, the target having a concave serrated face, and a nozzle so located with relation

to the target that the pulp stock will make first contact with serrated face adjacent one edge of the latter and escape over the opposite edge.

- 5 2. In apparatus for disintegrating or dividing fibrous stock the combination of a target, supporting means for the latter constructed to permit the target to be adjusted with relation to the nozzle, the target having a central ridge and a gutter shaped concavity on each side of the ridge, the two  
10 concave faces being roughened, and a nozzle

located to discharge the stock against the ridge whereby the stream will be divided into two parts one part passing over each concave surface. 15

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

WILLIAM H. STOBIE.

Witnesses:

JOSEPH R. GOODWIN,  
HARVEY L. BURRILL.