(No Model.)

M. D. CURRIER.

AGITATOR FOR STUFF CHESTS.

No. 438,606. Patented Oct. 21, 1890.

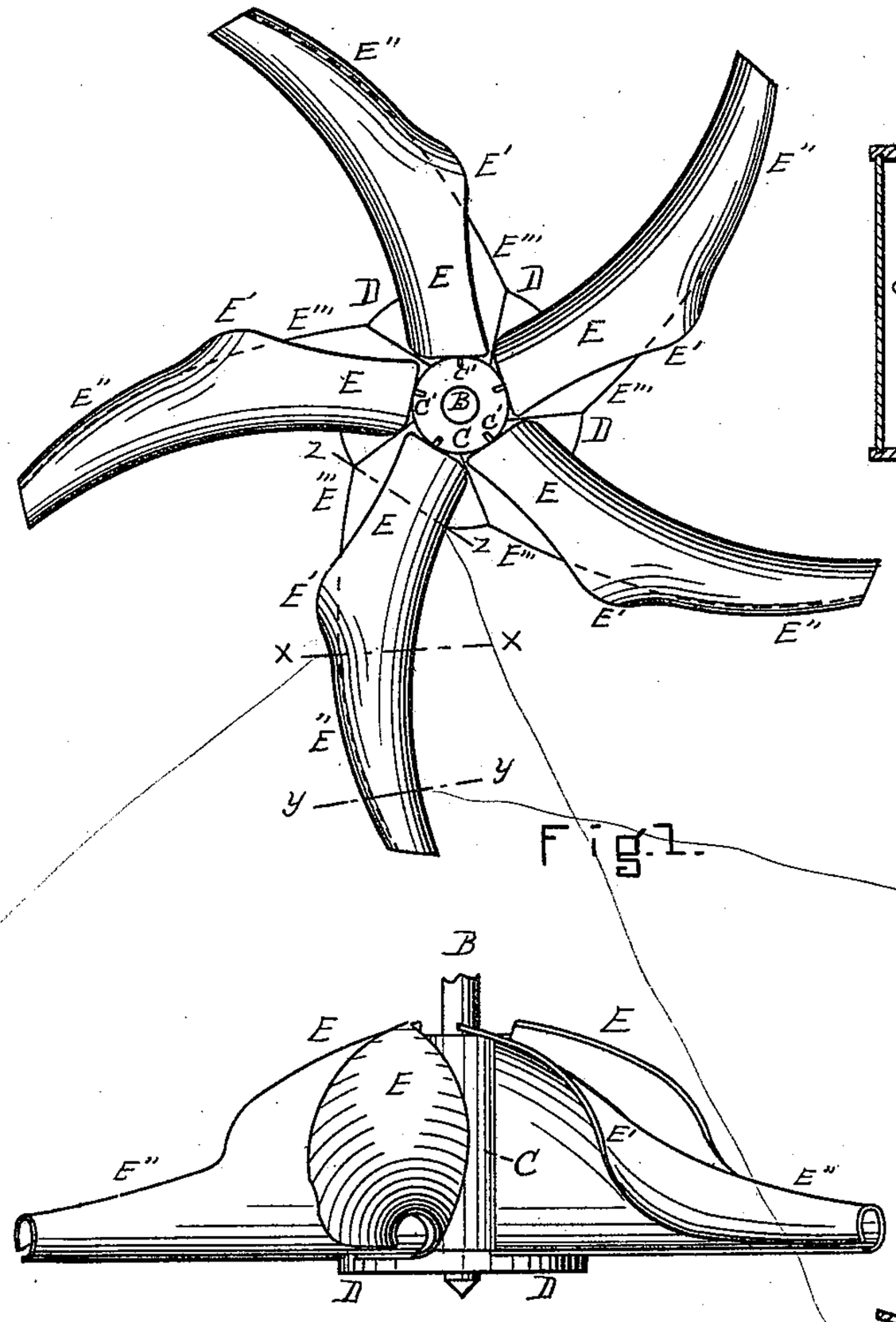


Fig. 1.

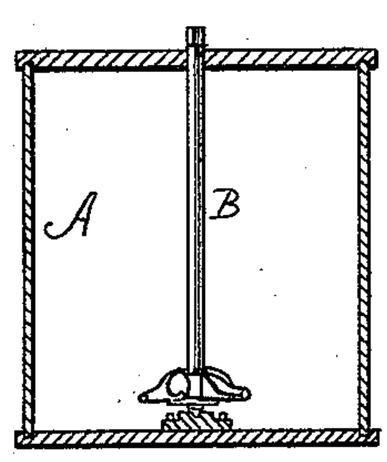


Fig. 4.

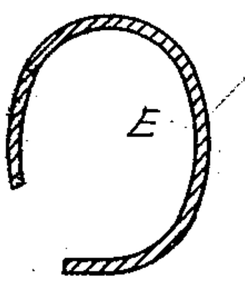


Fig. 5.

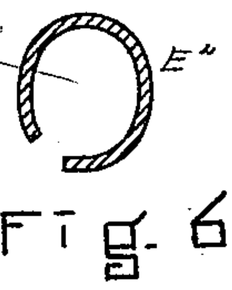


Fig. 6.

Fig. 2.

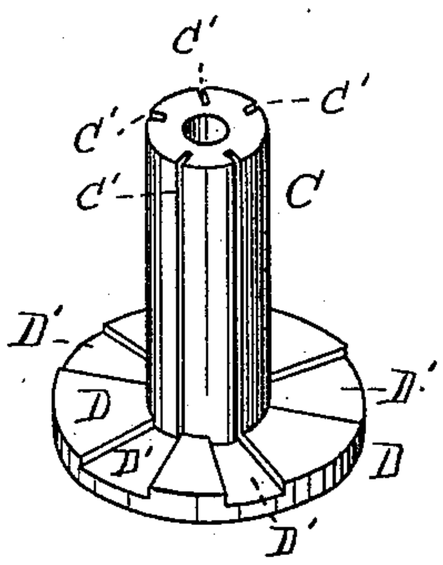


Fig. 7.

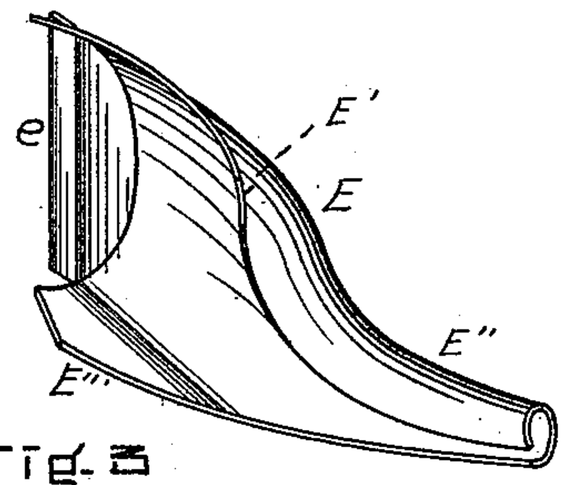
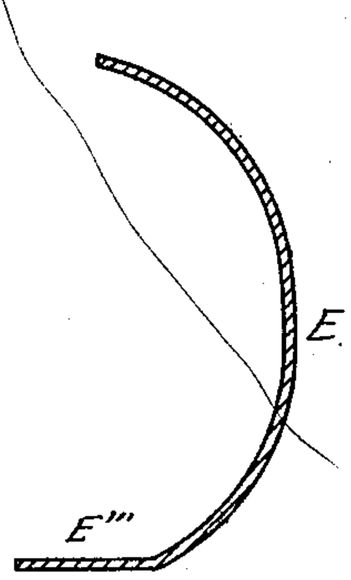


Fig. 8.



Witnesses.
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Inventor.
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By his Atty.
Henry W. Williams

UNITED STATES PATENT OFFICE.

MAHLON D. CURRIER, OF LAWRENCE, MASSACHUSETTS.

AGITATOR FOR STUFF-CHESTS.

SPECIFICATION forming part of Letters Patent No. 438,606, dated October 21, 1890.

Application filed March 3, 1890. Serial No. 342,474. (No model.)

To all whom it may concern:

Be it known that I, MAHLON D. CURRIER, of Lawrence, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Agitators for Stuff-Chests, of which the following is a specification.

This invention has for its object to provide an agitator for stuff-chests used in paper-making which will be more efficient in keeping the "stuff" in a thorough state of agitation, whereby it is prevented from settling in the bottom of the chest so that the pump cannot take it, and to more thoroughly and rapidly mix the ingredients, whereby the different kinds of fibers are kept well mixed, thus producing a more uniform paper, and in case additional coloring-matter is applied during mixing causing it to mix with great rapidity; and this device is intended particularly to be an improvement upon the device described in an application for Letters Patent filed September 21, 1889, and serially numbered 324,679.

The present invention does away with the bottom plate, excepting what is necessary for the support of the blades, thus preventing foul matter from collecting thereunder, and also with the annular top plate, thereby affording less opportunity for stuff to lodge on the agitator itself. It is also an improvement as regards simplicity, and, by means of the peculiar shape of the radial arms or blades, as regards the rapidity with which the discharge is effected with a slight expenditure of power.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a plan view of my improved agitator. Fig. 2 is an elevation of the same. Fig. 3 is a view of one of the blades or arms detached. Fig. 4 is a reduced elevation of the agitator in position in a stuff-chest, shown in vertical section. Fig. 5 is a cross-vertical section on line *x x*, Fig. 1. Fig. 6 is a similar section on line *y y*, Fig. 1. Fig. 7 is a perspective view of the hub. Fig. 8 is a cross vertical section on line *z z*, Fig. 1. Fig. 9 is a cross vertical section of a blade, taken at the point indicated by line *y*, Fig. 1, and showing a modification.

A represents an ordinary stuff-chest, and B is the shaft, to which rotary motion is applied by means of suitable mechanism. C is a hub rigidly secured upon said shaft and provided with a series of equidistant vertical grooves C′. Fixed upon the lower end of this hub is a flange D, whose upper surface is provided with broad radial grooves D′. The grooves C′ in the hub are for the reception and holding of the inner ends *e*, Fig. 3, of the radial arms or blades E, and the radial grooves D′ are to receive and impart rigidity to the inner portions of the lower edges of the arms or blades. These radial arms or agitating-blades are alike, and are of the peculiar shape shown in the drawings. At their rear ends they are of the shape shown in Fig. 8, being comparatively slightly curved and with wide mouths. At the point E′, Figs. 1 and 3, the upper edges of these blades are bent decidedly toward the lower edges, so that the outer ends E″ are practically tubular, although the two edges do not come quite together, such outer portions being much smaller in diameter than the inner portions. In the modification shown in Fig. 9, however, the tube is a perfect one; but the operation of the device when constructed as in Fig. 6 is satisfactory. The arms or blades are preferably curved rearward horizontally, as shown. By means of this construction the blades, and especially their lower edges E‴, catch the stuff and discharge it through the tubular outer ends with great rapidity and with a comparatively slight expenditure of power.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The herein-described improved agitator, comprising the shaft B, hub C, provided with the vertical grooves C′ and flange D, having radial grooves D′, and the radial arms or blades E, of substantially the shape described, and rigidly secured by means of said grooves in said hub and flange, said arms or blades having substantially broad openings

at their inner ends and being substantially tubular at their outer ends, all substantially as set forth.

2. In a rotary agitator, the radial arm or blade E, having a wide opening or mouth at the portion next its inner end and with its upper edge bent at E′ toward its lower edge, whereby its outer portion is substantially tubular and much smaller in diameter than its inner portion, substantially as described.

MAHLON D. CURRIER.

Witnesses:
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