

(No Model.)

2 Sheets—Sheet 1.

L. A. THOMAS.
PULP ENGINE.

No. 521,300.

Patented June 12, 1894.

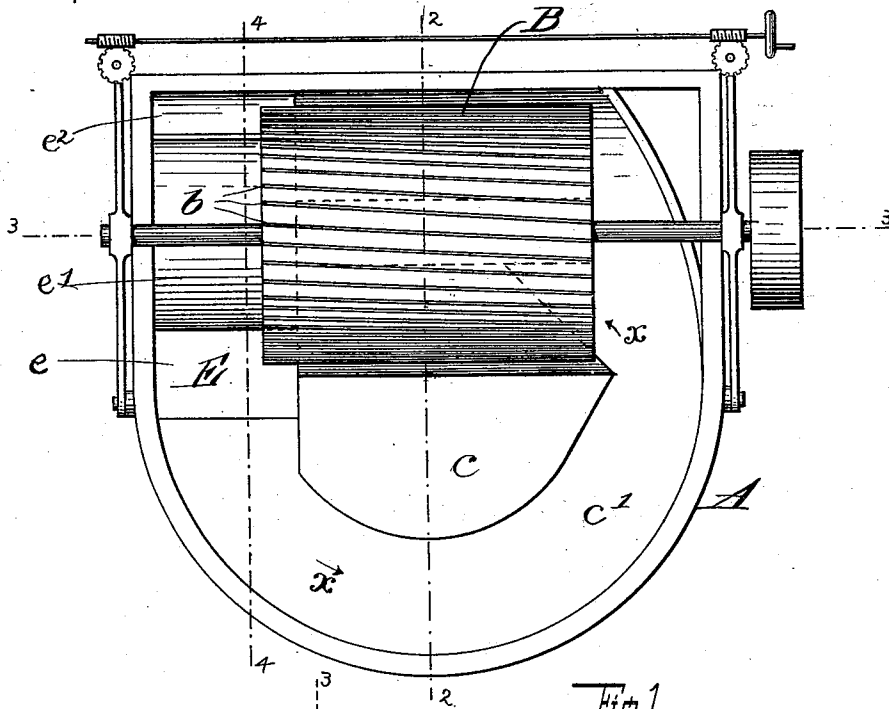


Fig. 1.

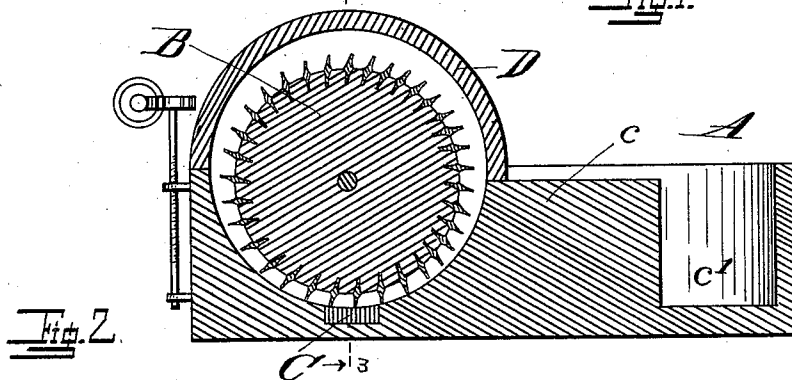


Fig. 2.

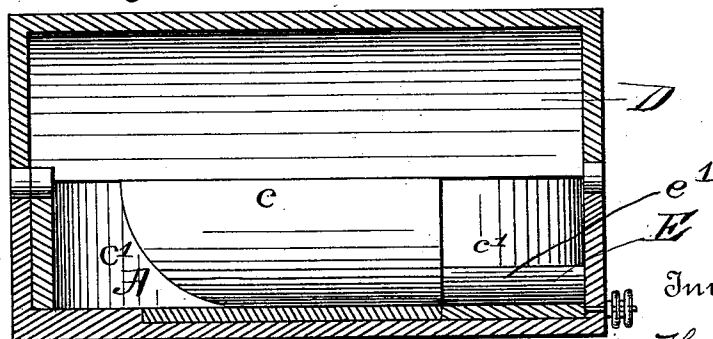


Fig. 3.

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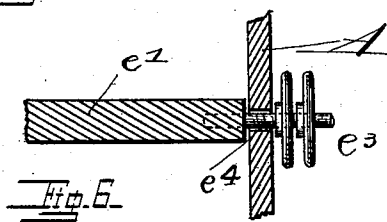
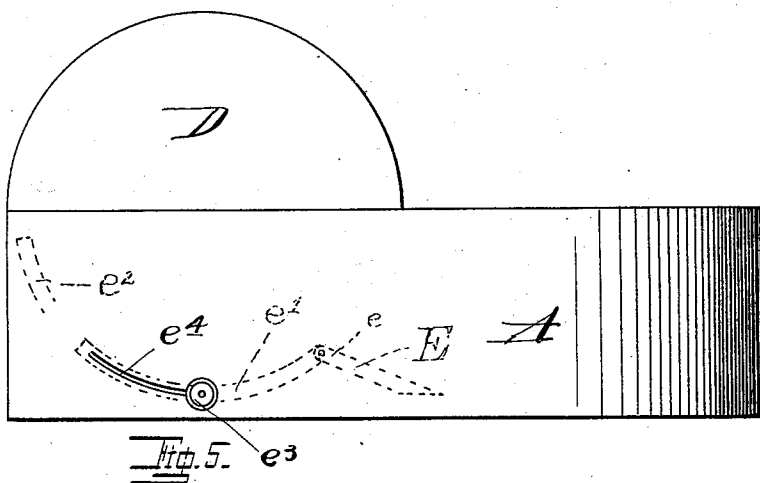
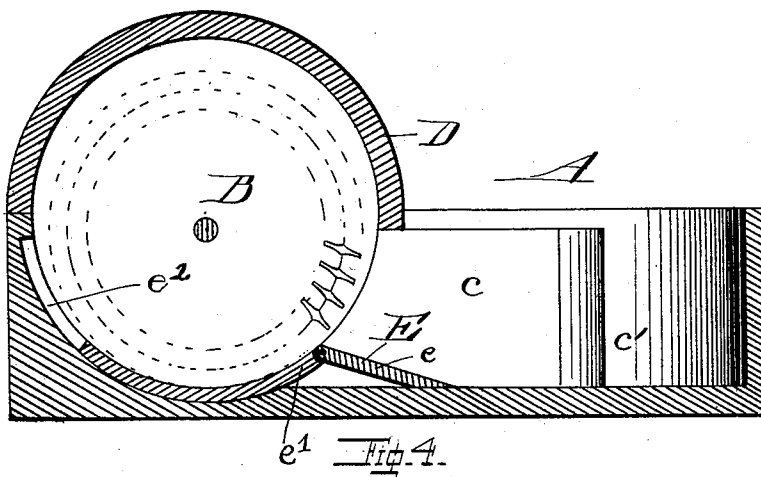
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2 Sheets—Sheet 2.

L. A. THOMAS.
PULP ENGINE.

No. 521,300.

Patented June 12, 1894.



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UNITED STATES PATENT OFFICE.

LARKIN A. THOMAS, OF BANNING, GEORGIA.

PULP-ENGINE.

SPECIFICATION forming part of Letters Patent No. 521,300, dated June 12, 1894.

Application filed July 28, 1893. Serial No. 481,769. (No model.)

To all whom it may concern:

Be it known that I, LARKIN A. THOMAS, a citizen of the United States of America, and a resident of Banning, in the county of Carroll and State of Georgia, have made certain new and useful Improvements in Pulp-Engines; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

15 This invention is represented in the accompanying drawings and will be explained in detail in this specification said drawings being briefly described as follows:

Figure 1 is a plan view of the vat and the cylinder running therein, said figure being taken with the casing normally covering the top removed, the figure therefore showing the conformation of the channel. Fig. 2 is a vertical section on the line 2—2, Fig. 1, showing the vat, the cylinder and the bed-knives. Fig. 3 is also a vertical section on the line 3—3, Figs. 1 and 2, through the vat, showing the interior construction thereof. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 is a side elevation of the device and Fig. 6 is a detail of the segment-securing stud and thumb-nuts.

In the figures like reference characters are uniformly employed in the designation of corresponding elements of construction.

35 A is the vat.

B is the cylinder and C is the set of bed knives. The cylinder knives *b* are set spirally in the cylinder as best shown in Fig. 1, but are otherwise of the usual form. The bed-knives C are of usual form and are set, as is also usual, parallel to the axis of the cylinder and in the bottom of the concave. The concave has a casing D over it of semicircular form which completes the circle partially formed by the concave in which the cylinder runs. As is usual in pulp-engines this cylinder carrying the knives spirally thereon, runs in the stuff nearly to its axis, and consequently the mid-block *c* is about as high as the sides of the vat and said axis, and in connection with the sides and bottom of the vat, forms a

channel *c'* from one end of the cylinder around to the other.

The impingement of the spirally set cylinder knives against the stuff tends to drive it forward and in the direction of the arrow *x* in Fig. 1, and to finally force it around the channel *c'* to the other end of the cylinder. The spiral set of knives in said cylinder make, obviously, an angle with the bed-knives, causing a shearing cut on the stuff.

The dam E is inserted in the channel *c'* so as to receive the stuff from the cylinder and cause positive circulation, and hence its point of greatest altitude should be as near the periphery of said wheel as practicable in operation. This dam is formed of a plate *e* which fits the lower portion of the channel *c'* resting at its lower or free end on the floor thereof and its upper end being pivotally secured to the end of the segment *e'* which fits and is movable in a correlatively shaped recess or depression *e²* in the concave as best shown in Fig. 4, being held stationary by means of a thumb-nut and stud *e³* which passes through a curved slot *e⁴* in the casing as seen in Figs. 5 and 6. The fit of the segment *e'* in its seat should be such as will preclude any possibility of objectionable leakage around same. It is obvious that the segment will at all times hold the plate *e* rigid and as near to the circumference of the cylinder as practicable. The plate *e* may be longer if desired to have it extend farther into the channel and lessen its inclination.

It will be observed with reference to Fig. 3 that the cylindrical opening in which runs the cylinder is eccentric to said cylinder, which leaves considerable space at the top of said opening above the cylinder, which will cause the stuff to be thrown by centrifugal force over the top of said cylinder at an angle to the direction of revolution of the cylinder by the spirally set knives, and that it will be thrown forward as the stuff tends and against the inner side of the casing at the top thereby thoroughly intermixing the ingredients thereof and more thoroughly pulping same.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a pulp engine, a cylinder carrying

knives and running in the concaved portion of the casing, a channel formed in said casing terminating at each end of the said cylinder, the aforesaid concaved portion being cut away
5 at the channel outlet to expose a portion of the working face of the said cylinder to the direct flow of stuff, substantially as and for the purpose specified.

10 2. In a pulp engine, a concave and a cylinder mounted therein, knives set in said concave and cylinder, a channel leading from the bottom of the said concave and a vertically adjustable dam therein near the said cylinder, for the purpose specified.

15 3. In a pulp engine, a concave and a channel leading therefrom, a cylinder mounted in the said concave, a curved piece set and sliding circumferentially within said concave, at the point of the opening therefrom of the said

channel, and means for securing said curved 20 piece in any set position, for the purpose specified.

4. In a pulp engine, a concave and a channel leading therefrom, a cylinder mounted in said concave, a curved plate set and sliding 25 circumferentially in said concave at the point of the opening therefrom of the said channel, a leaf hinged to the upper edge of the said plate its free end resting on the bottom of the channel and means for securing the said plate 30 in any set position, substantially as and for the purpose specified.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

LARKIN A. THOMAS.

Witnesses:

A. P. WOOD,
CONA THOMAS.