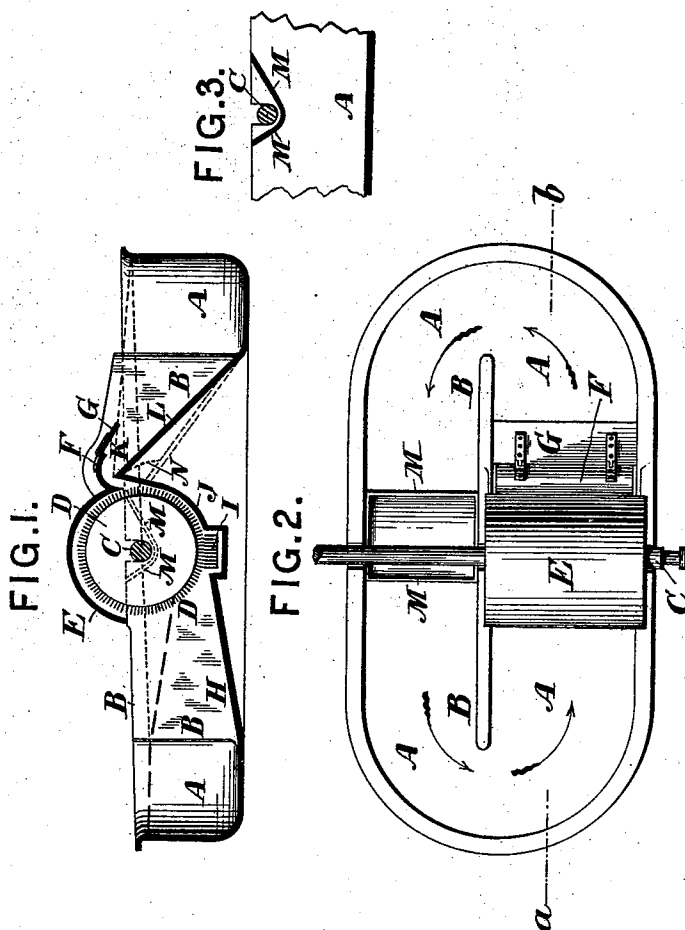


(No Model.)

T. S. TAIT & J. HOOD.
PULP ENGINE.

No. 532,494.

Patented Jan. 15, 1895.



Witnesses.

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UNITED STATES PATENT OFFICE.

THOMAS SMITH TAIT AND JOHN HOOD, OF INVERURIE, SCOTLAND.

PULP-ENGINE.

SPECIFICATION forming part of Letters Patent No. 532,494, dated January 15, 1895.

Application filed February 8, 1894. Serial No. 499,551. (No model.) Patented in England December 15, 1892, No. 23,130.

To all whom it may concern:

Be it known that we, THOMAS SMITH TAIT and JOHN HOOD, subjects of the Queen of Great Britain, and residents of Inverurie Mills, Inverurie, Aberdeenshire, North Britain, have invented new and useful Improvements Connected with Pulp-Engines, (patented in Great Britain, No. 23,130, dated December 15, 1892,) of which the following is a specification.

The object of this invention is in an engine provided with a guide or fence to guide or direct the pulp away from the back of the roll and prevent the pulp from being carried round with and over the top of the roll.

According to this invention a passage is formed at the back of the roll and so placed that the pulp is forced or thrown through this passage into the trough of the engine and prevented from being carried round with the roll.

In an engine constructed according to this invention the passage through which the pulp is thrown into the trough may be formed at any point behind the bed plate.

In existing engines the passage may be formed by raising the back fall and giving it a suitable shape by means of a block of wood, iron or cement fixing to the cover or sides of the engine a guide or doctor extending the whole width of the roll so as to form a passage of a suitable shape between the raised backfall and guide through which the pulp is thrown or directed away from the roll and into the trough of the engine.

The annexed drawings show our invention.

Figure 1, is a section on the line *a, b*, of Fig. 2, which is a plan of the beater engine, Fig. 3 being a part section indicating the protection of the shaft by the guard.

A is the trough; B, the partition therein.

C is the shaft and D the beater roll.

E is the shield with a curved guide F from which is hung by hinges a flap G.

H, is the uprising incline of the bottom to the bed plate I the bottom then being curved at J to the neck K which is higher than the axle C of the beater roll D and from which neck is the descent plate or backfall L. This may be at any angle such as is indicated by full lines, the dotted line showing the height at which the backfall of an existing beater engine is carried. The additional height can be made to form the narrow passage by building upon the existing one by a lump such as that shown by the curved dotted line N.

M is the guard in the open return part of the trough A and under the shaft C.

The space between the top edge of the backfall L and of shield E and guide F is of such shape and narrow but of the full width of the roll D to prevent the "stuff" falling back between the roll D and curved plate J or of being carried round by the roll D whereby the stuff has a better travel and circulation than usual and passes oftener and more regularly between the roll and plate.

By this invention the stuff is more freely delivered behind the roll and stands higher in the trough than in ordinary beater engines and the guard not only protects the shaft but enables the stuff to move uniformly along the return side of the trough.

What we claim, and desire to secure by Letters Patent of the United States of America, is—

1. In pulp engines for paper making, the combination with the trough, beater-roll and bed-plate, of a backfall, united therewith so as to form a continuous passage for the flow of pulp and comprising a curved portion J, forming the ascent plate and the descent-plate L, connected therewith, the apex of which is located in a plane higher than the axis of the beater-roll, whereby the flow of pulp is accelerated, substantially as described.

2. In pulp engines for paper making, the combination with the beater-roll D, of the trough A, having an upwardly inclined bottom H; a bed-plate I, connected therewith; the curved portion J, communicating with said bed-plate and constituting the ascent of the backfall; the descent-plate L, connecting said ascent plate with the trough; the shield E, extended over the beater-roll and provided with a guide F, said shield and guide forming in connection with the ascent-plate J and the descent plate L a narrow neck located in a plane higher than the axis of the beater-roll, whereby the flow of pulp is rendered more rapid and uniform substantially as set forth.

In witness whereof we have hereto signed our names, in the presence of two subscribing witnesses, this 3d day of January, 1894.

THOMAS SMITH TAIT.
JOHN HOOD.

Witnesses:

WILLIAM COWIE WIGHT,
JAMES ROBB,
Both of Inverurie Mills, Inverurie.