W. C. TUTTLE.

PULP DRESSERS FOR PAPER MACHINES.

No. 190,390. Patented May 1, 1877.

Fig. 1.

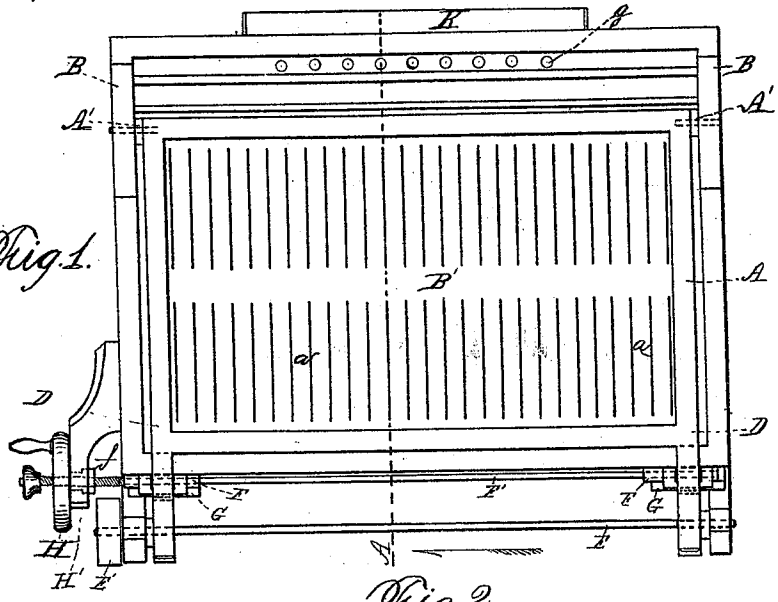
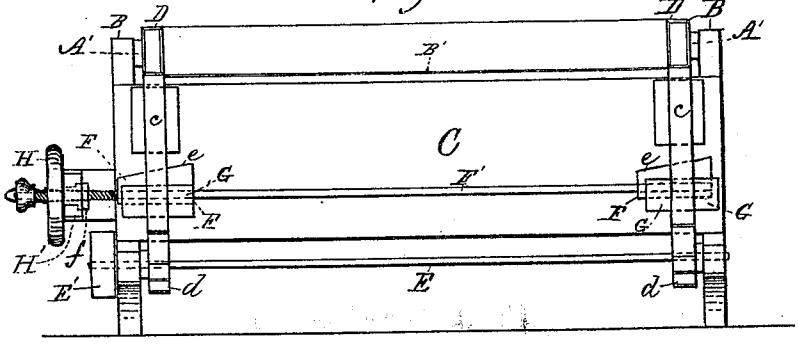


Fig. 2



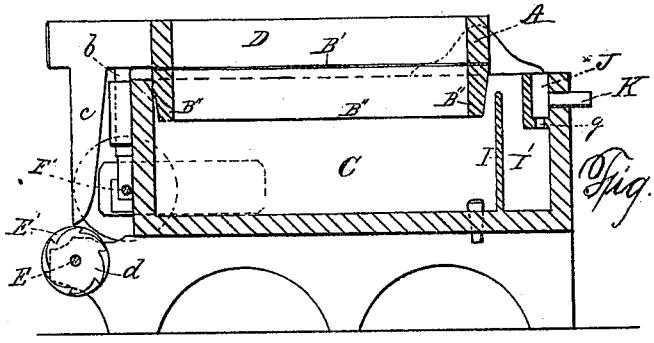


Fig. 3.

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WARREN C. TUTTLE, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO RICE, BARTON & FALES MACHINE AND IRON COMPANY, OF SAME PLACE.

IMPROVEMENT IN PULP-DRESSERS FOR PAPER-MACHINES.

Specification forming part of Letters Patent No. 190,390, dated May 1, 1877; application filed June 10, 1876.

To all whom it may concern:

Be it known that I, WARREN C. TUTTLE, of the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Pulp-Dressers for Paper-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a top or plan view of so much of a pulp-dressing machine as is necessary to illustrate my present invention. Fig. 2 represents a front view; and Fig. 3 represents a vertical section on line A, Fig. 1.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings, the part marked A represents the common screen pulp-box used in pulp-dressing machines, and into which the pulp is conveyed in any suitable manner, said screen pulp-box being hinged at A′ to projections B B upon the upper edges of the main pulp-box C. The pulp, after entering screen-box A, passes through the slits or openings *a* in the metallic bottom B′. As such machines have been constructed heretofore, the sliding standards *b b*, which support the front ends of the hinged side pieces D D of the screen pulp-box A, have been set up and down by means of set-screws arranged in pieces secured to the front side of the main pulp-box C, said screen being turned up or down directly under said vertical standards *b*. This was a very inconvenient arrangement, and could not well be adjusted when the machine was in operation; besides, there was no certainty of the ends being adjusted alike. Consequently the arms *c* would not always be acted upon at the same time by the cam-wheels *d d* on shaft E, to which they are securely fastened, said shaft being rotated by a pulley, E′, upon its outer end.

Those skilled in the art will readily understand and appreciate the difficulties and objections encountered by this old mode of construction, since every time the screen pulp-box was raised, by means of the cam-wheels *d d* acting on the lower ends of arms *c*, if one of the sliding standards were set higher than the other, there would be an uneven and twisting action or strain imparted to the screen pulp-box A. To remedy these defects, and to enable the operator to adjust the sliding standards *b b* simultaneously and uniformly, and that, too, while the machine is in operation, I arrange sliding blocks F F directly under the lower ends of sliding standards *b b*, the lower ends of said standards resting upon the inclined or wedge-shaped edges *e e* of blocks F F. Blocks F F are supported in grooved projections or bearing-pieces G G, secured to the front side of the main pulp-box C, and they are also connected together by means of shaft F′, to which they are rigidly secured.

One end of shaft F′ is provided with a screw-thread, which passes through hub *f*, secured to crank-wheel H upon the outside of the stationary bearing-piece H′, hub *f* being provided with a flange upon its inner end, which works in a groove in the inside of bearing-piece H′, as indicated in dotted lines, Figs. 1 and 2.

From the foregoing description it will be seen that when crank-wheel H is turned in one direction, shaft F′, together with its blocks F F, will be drawn to the left, and sliding standards *b b* will be elevated, thereby causing them to hold the downward-projecting arms *c c* from dropping so low down as they otherwise would when one set of the cam-teeth have passed their lower points, and that when said crank-wheel is turned in the other direction a reverse action will be had, thus rendering the pulp-dressing machine of a very easy and accurate adjustment, and that, too, while the machine is in operation.

The operation is as follows: The pulp being discharged into the screen pulp-box A, it passes through the openings *a* in its bottom B′, and descends into the main pulp-box C until that is filled up to the top of division-piece I, when the pulp runs over into the division I′, and fills that up until it reaches the holes *g*, and fills box J until it reaches the long overflow K, when it runs out in a thin

even sheet, and falls upon the carrier, in the usual manner.

By giving to the screen pulp-box A a shaking or tilting motion, by means of the cam-wheels *d d* and arms *c c*, the pulp is drawn through the openings *a a* in the bottom B′ by means of a suction action, since the lower part B″ of screen pulp-box A is always below the upper surface of the pulp; consequently a greater or less suction can be produced by adjusting blocks F F so as to give a greater or less throw to the front edge of screen pulp-box A.

It will be seen that by my improvement, if the pulp is heavy, the operator can easily and quickly adjust the blocks F F so as to cause an increased suction action through the openings *a*, thus securing a regular and uniform flow of the pulp, and vice versa.

Then, again, when it is desired to stop the paper-machine for cleaning or washing it up, or for any other purpose, the attendant, by means of my invention, can quickly elevate the arms *c c*, so as to be above the action of the cam-wheels *d d*, thereby stopping all noise and motion of the screen pulp-box A.

Having described my improvements in pulp-dressers for paper-machines, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

The combination, in a pulp-dresser for paper-machines, with the screen pulp-box A B′ B″ and cam-wheels *d d*, of side arms D, standards *b b*, and regulating mechanism, consisting of the blocks F F, shaft F′, and its operating crank-wheel H, substantially as and for the purposes set forth.

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