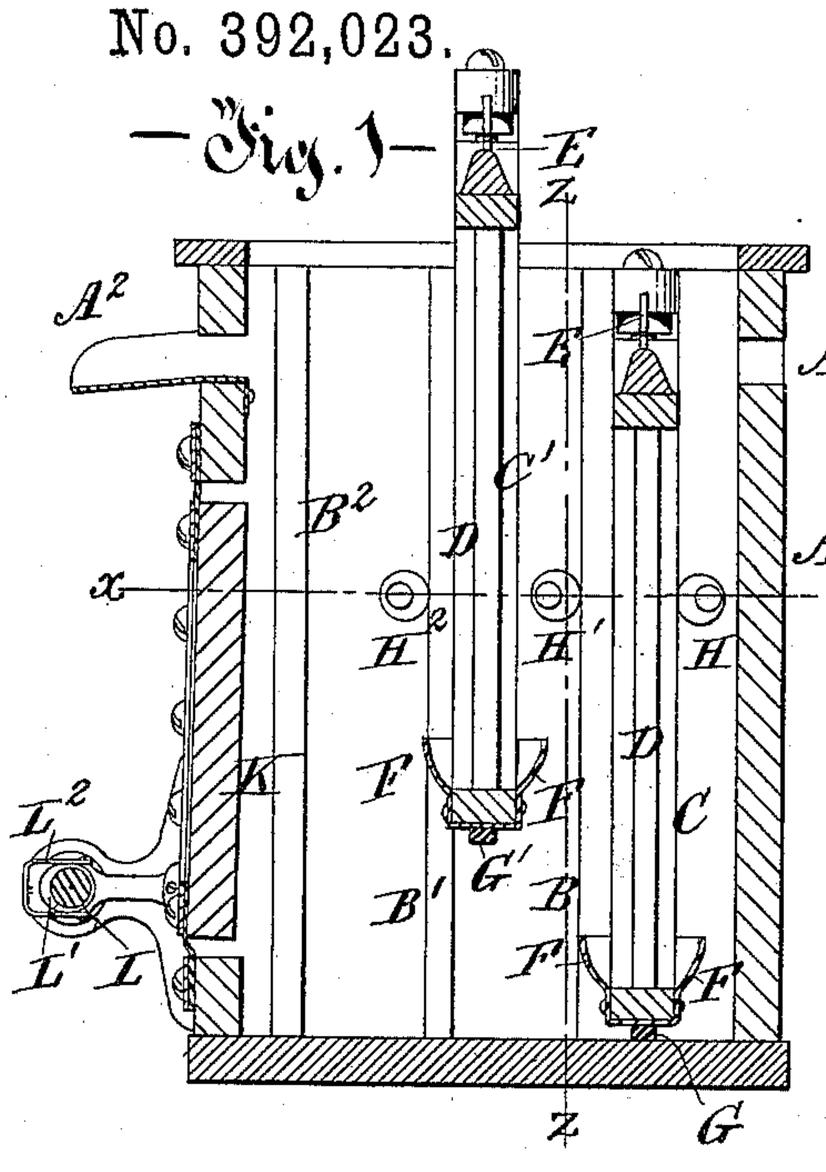
(No Model.)

J. FLEMING.

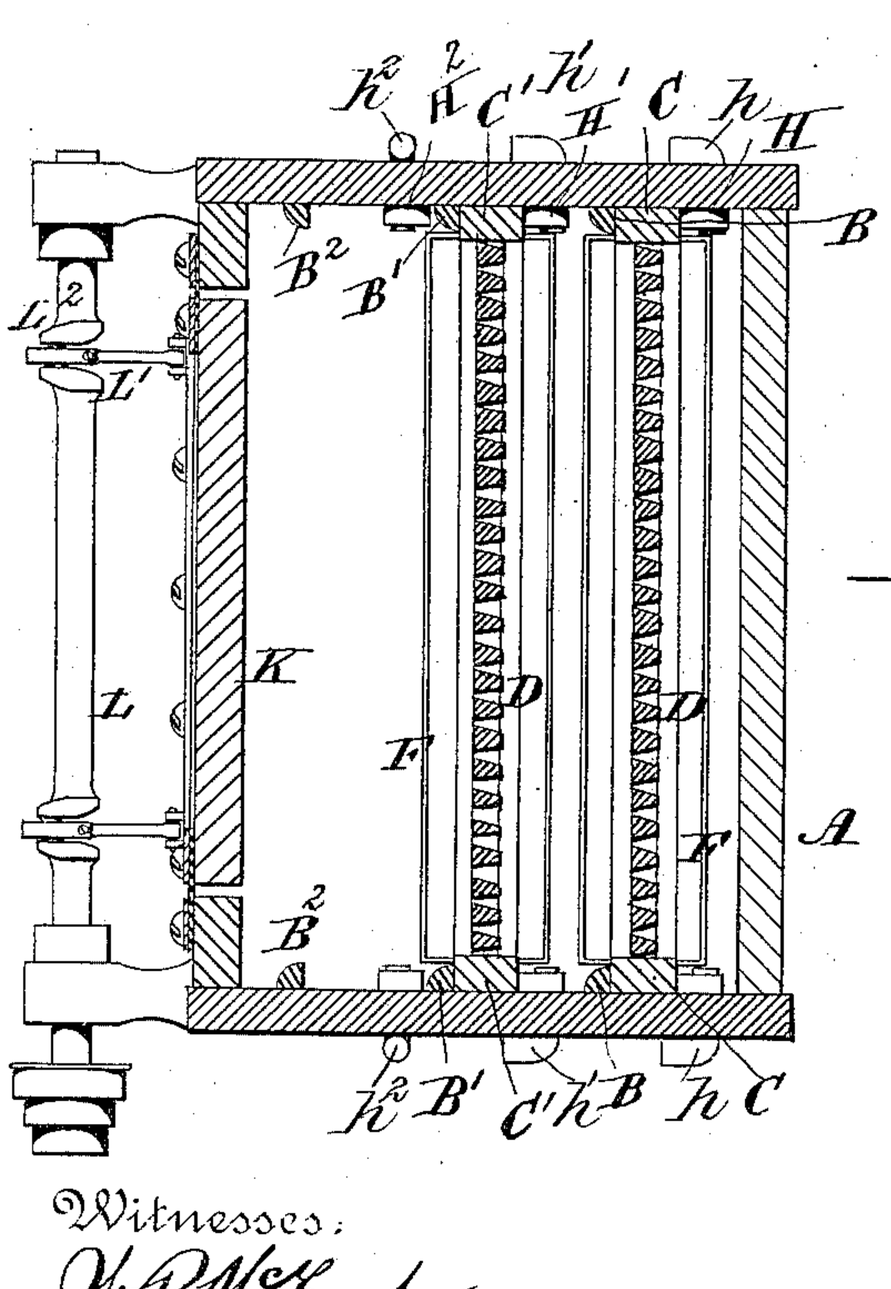
SCREENING APPARATUS FOR PAPER MACHINES.

No. 392,023. Patented Oct. 30, 1888.

— Fig. 1 —



— Fig. 2 —



— Fig. 3 —

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SCREENING APPARATUS FOR PAPER-MACHINES.

SPECIFICATION forming part of Letters Patent No. 392,023, dated October 30, 1888.

Application filed February 3, 1888. Serial No. 262,954. (No model.)

To all whom it may concern:

Be it known that I, JOHN FLEMING, of the town of Cornwall, in the county of Stormont and Province of Ontario, Canada, have invented certain new and useful Improvements in Screening Apparatus for Paper-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention has reference to the "screens" of paper-making machines, through which the pulp is forced or drawn before passing out onto the wire web or apron, in order to free it from impurities and extraneous matters, and my object is to secure the continuous working of such screening apparatus by doing away with the necessity of stopping the machine to wash the screens when the channeled plates through which the pulp flows become choked. I make these screens removable, forming in the chamber two, three, or more vertical seats, against which these screens can be set and secured in place by any suitable device. By this means when a screen (usually first set close to the inlet of the pulp) becomes choked another screen is slipped down in front of it and secured in place, the first screen being lifted out by means provided for the purpose, and this operation may be repeated as often as found necessary.

My invention also relates to details in the construction of the screens.

For full comprehension of the invention reference must be had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a sectional elevation taken transversely through chamber and screens; Fig. 2, a similar view taken longitudinally on line *z z*, Fig. 1, through the chamber, and showing the front of the screen; and Fig. 3, a horizontal section taken on line *x x*, Fig. 1.

Similar letters of reference indicate like parts.

A is the screen-chamber, of any desired dimensions and constructed in any approved way, A′ being the inlet for the pulp, and A^2 the outlet onto the web.

B B, B′ B′, and B^2 B^2 are seats formed on the sides of A, against which the screens can be set.

C and C′ are the removable frames, of any desired size, holding the usual channeled plates or screens, D, and provided with means—such as eyes E E—by which they may be lifted out of or placed in position.

F F are dishes or troughs secured on both sides of the screens at or near their bottom to receive the strings or settlings of the pulp.

G G are strips of rubber or like material secured to the under side of the screens to prevent the pulp from passing underneath them.

H, H′, and H^2 are cam-clamps set on spindles passing through the chamber and operated from the outside by handles *h h′* h^2 to lock or release either one of the screens.

The operation of this part of my invention will be easily understood from Fig. 1 of the drawings.

So soon as the screen C, held against the seats B B, becomes choked, a similar screen, C′, is suspended by the eye E and let down into position by a crane or similar mechanism and locked in place by the clamps H′. The fastening device of the screen C is unlocked and this screen lifted out and cleansed ready to be replaced—an operation which is much facilitated from the fact that the greater part of the impurities held by the channeled plates D have been deposited in the dishes or troughs F F. By this arrangement, too, I am enabled in cases in which extra screening is required and a very fine quality of stock called for to pass the pulp through two or even more screens, replacing or shifting these, as already described.

Any suitable device which will hold the removable frames in place may be substituted for the cam-clamps H, H′, and H^2.

I arrange the door or rotary suction K to swing from the top and be operated from the bottom.

L is the motor-shaft, receiving motion from any moving part of the machine, with eccentrics L′ L′ mounted thereon and carrying eccentric-straps L^2, secured to arms pivoted to the door K.

Having thus described my invention, I beg to state that what I claim is as follows:

1. The screening mechanism of a paper-making machine, comprising the following elements, viz: the screening-chamber, removable

frames carrying channeled plates and provided with means by which they can be lifted, vertical seats in sides of chamber against which the removable frames are set, and locking devices for holding them in place, all as herein set forth.

2. The screening mechanism of a paper-making machine, comprising the screening-chamber, removable frames, and dishes or troughs secured to such frames on both sides near the bottom, as and for the purposes described.

3. The screening mechanism of a paper-making machine, comprising the screening-chamber, removable frames carrying channeled plates, dishes or troughs secured on either side of same, and rubber strips secured on the bottom edges, all as herein set forth.

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