D. HAMEL.

Stuff-Regulators for Paper-Machines.

No. 144,902. Patented Nov. 25, 1873.

Fig. 1

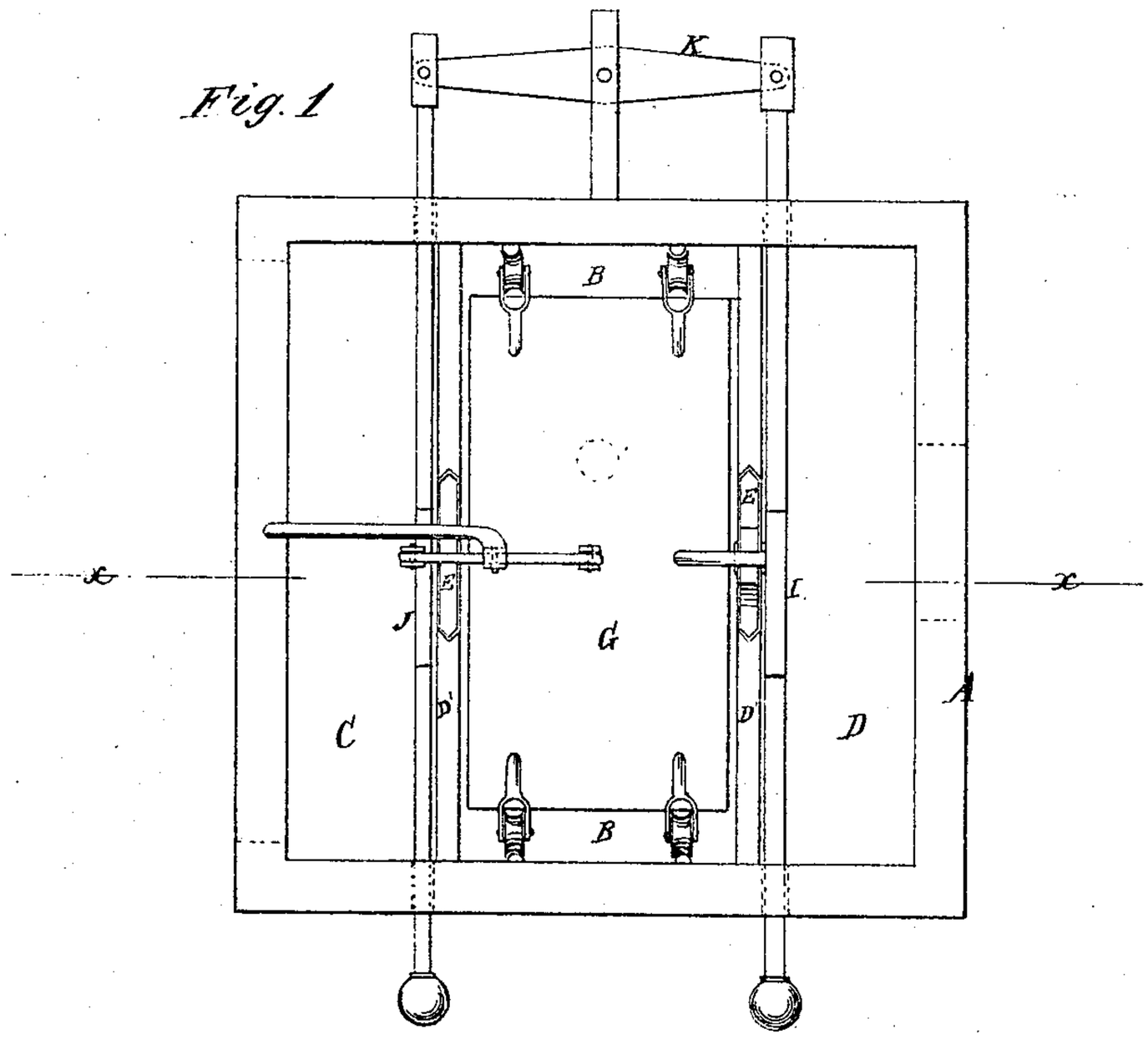
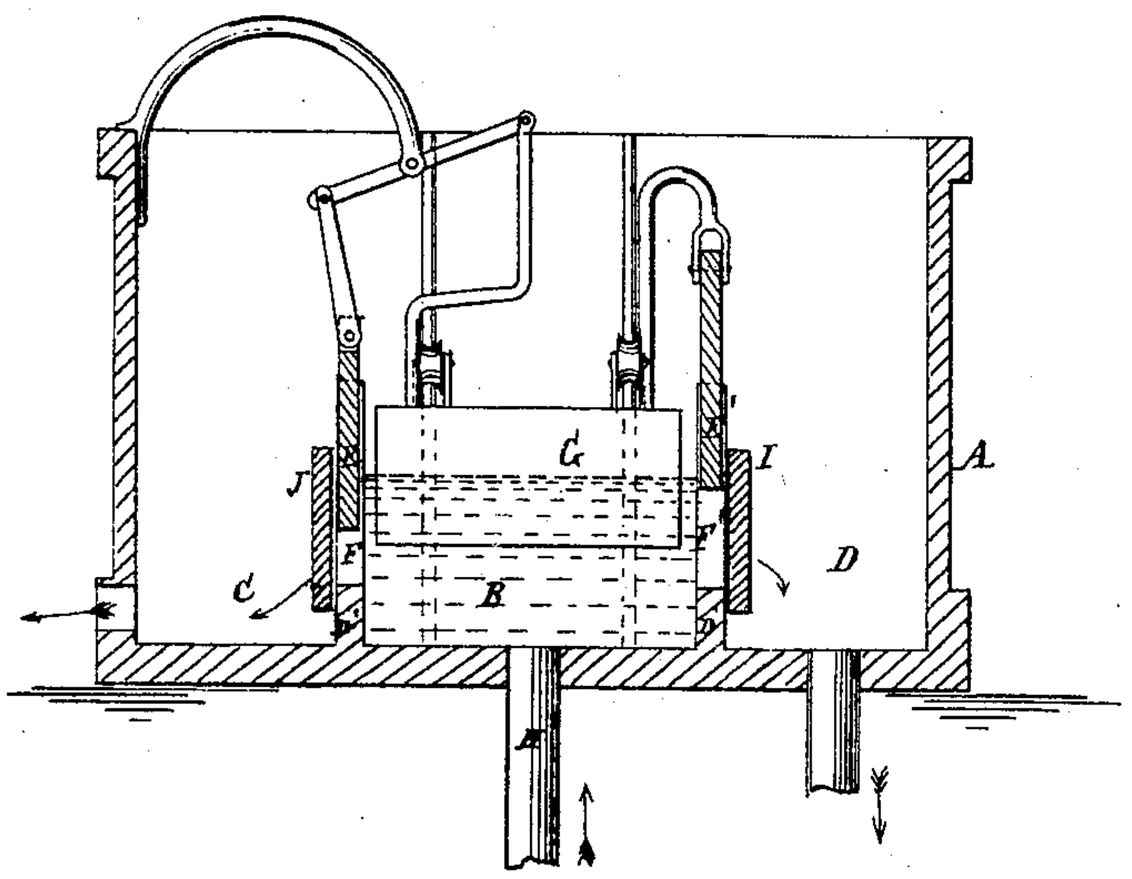


Fig. 2



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DAVID HAMEL, OF HOLYOKE, MASSACHUSETTS.

IMPROVEMENT IN STUFF-REGULATORS FOR PAPER-MACHINES.

Specification forming part of Letters Patent No. **141,902**, dated November 25, 1873; application filed October 11, 1873.

To all whom it may concern:

Be it known that I, DAVID HAMEL, of Holyoke, in the county of Hampden and State of Massachusetts, have invented a new and Improved Stuff-Regulator for Paper-Machines, of which the following is a specification:

My invention consists of a tank, a float, and valves or gates, so contrived that by passing the stuff of which paper is made through it, as said stuff goes from the main holding tank or reservoir to the moving screen, upon which it is spread for forming it into sheets, the flow will be regulated according to the proportion of pulp to water, so that the sheets will be uniform in thickness throughout their length, which is very difficult to accomplish by the present method of regulating the mixture by hand.

Figure 1 is a plan view of my improved regulator, and Fig. 2 is a sectional elevation taken on the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the tank of three compartments, B, C, and D, which are separated by partitions D′, each having a passage, F F′, and gate E E′. G is a float in the middle compartment B. The stuff is forced into this compartment through pipe H from the main reservoir, and flows through compartment C to the screen, on which it is laid for forming the paper sheets. The excess flows through compartment D back into the reservoir. The valves E E′ are connected to the float, so that it opens one and closes the other by moving one way, and the reverse when moving the other way. As the stream thrown by the pump is constantly the same, the variations in the height of the float are caused by the variations in the thickness or consistency of the stuff, and said float being connected to the valve E opening into compartment C, so as to open it when said float falls and closes said valve, when it rises it will, of course, close it and open the other when the thickness of the stuff increases, and thus lessen the quantity and open said valve E, and close the other E′, and increase the quantity when the stuff runs thinner, thus self-actingly regulating the quantity spread upon the screen with great uniformity, doing the work much better than it can be done by hand, and saving the labor of an attendant. The passage to the screen may connect directly with passage F, and the return-passage may connect directly with passage F′, so that compartments C and D may be dispensed with. I and J are gates for closing the passages E altogether. When required, they are connected together by the rock-lever K, so that one opens when the other closes. They are used to shut off all the flow to the apron, and cause it all to go back to the tank, or to shut off the return to the tank entirely and cause it all to flow to the apron. For allowing the stuff to flow both ways, they are adjusted on the half-stroke.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A self-acting stuff-regulator for paper-machines, consisting of the compartment B, float G, and valves E E′, combined with the passage H from the main reservoir to the paper-screen, and a return-passage to the said reservoir, the valves being connected to said float, so as to be worked reversely to each other.

DAVID HAMEL.

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