

R. HUTTON.

Pulp-Regulators for Paper-Machines.

No. 155,027.

Patented Sept. 15, 1874.

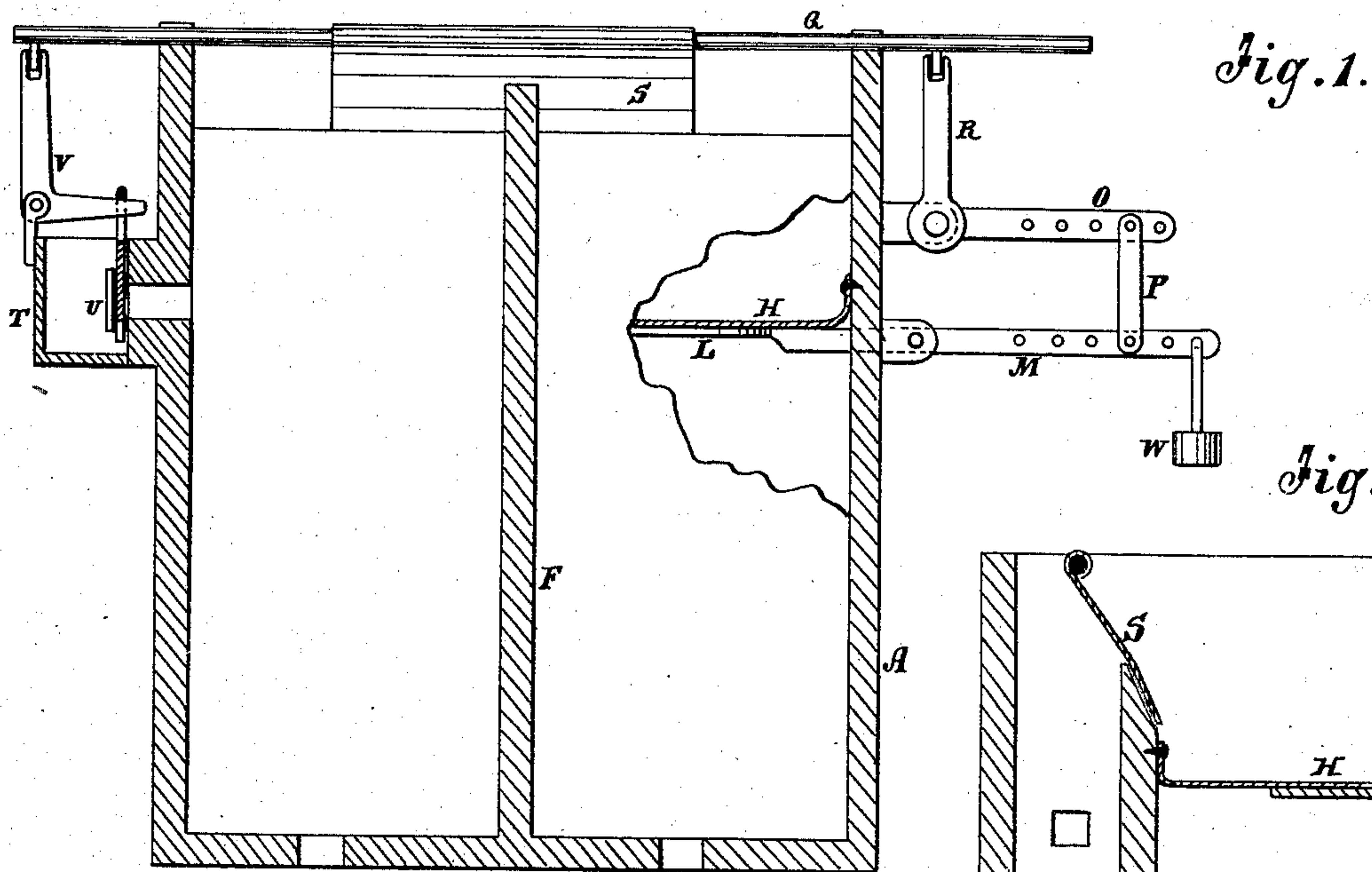


Fig. 1.

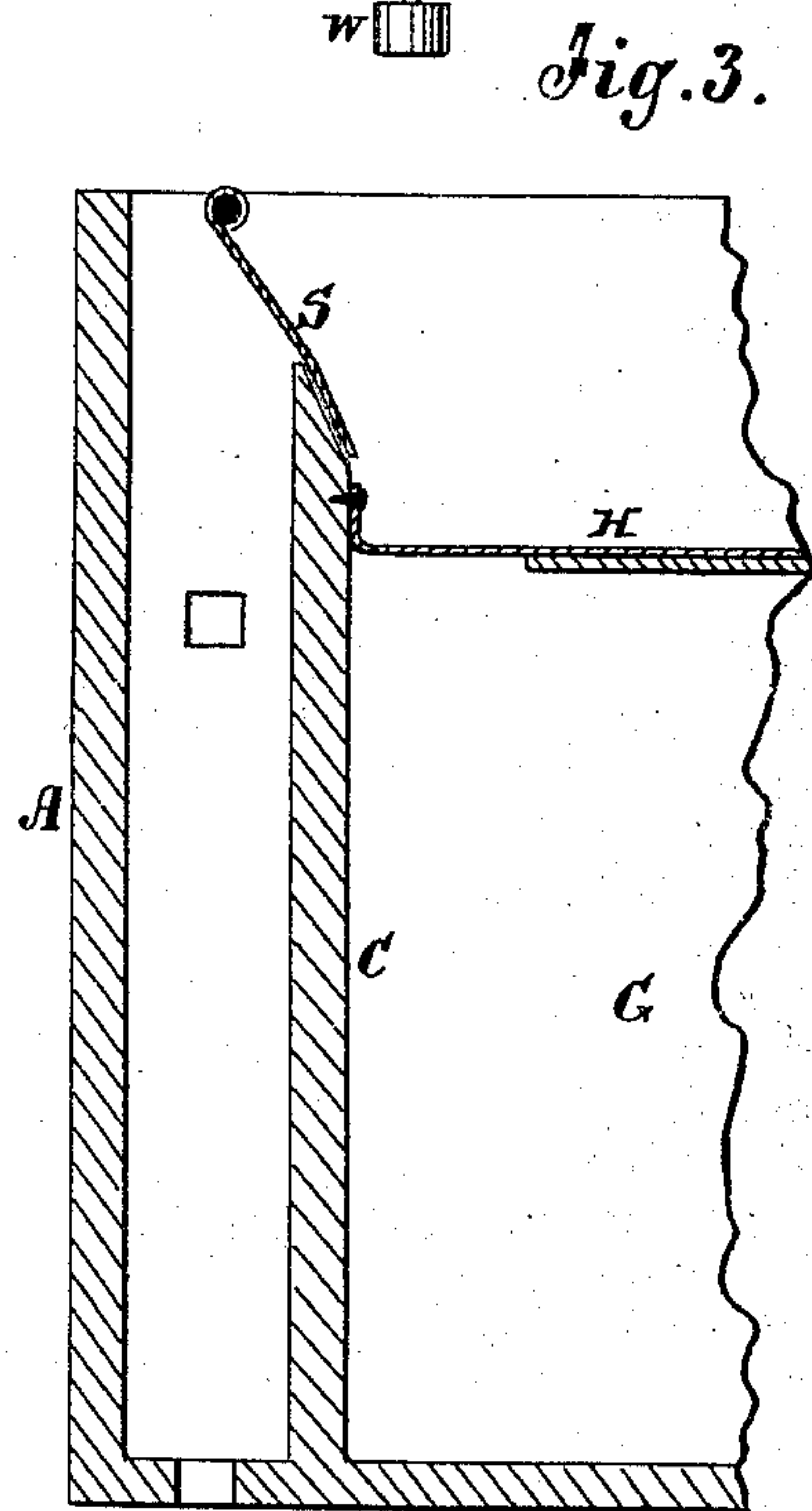


Fig. 3.

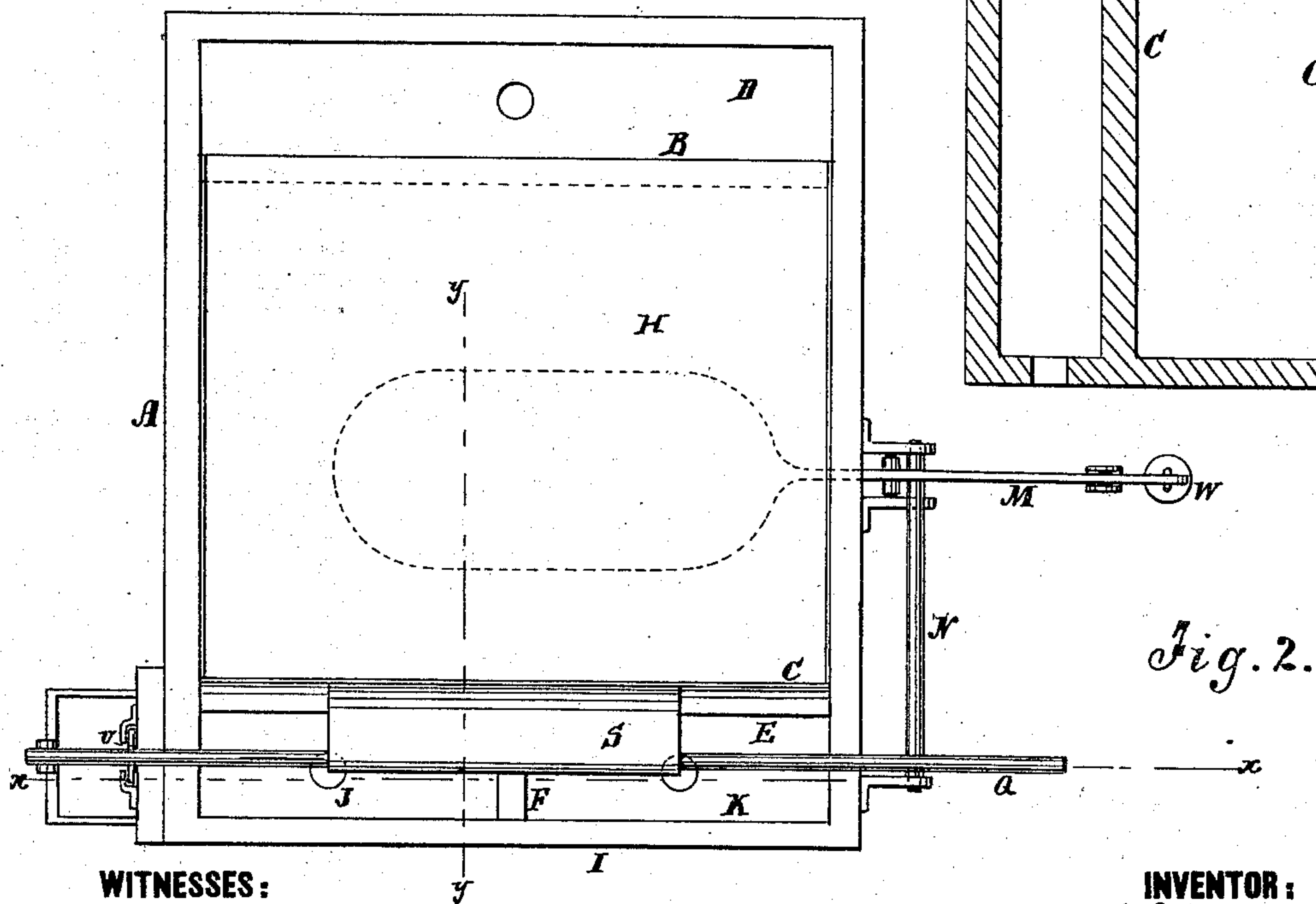


Fig. 2.

WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

ROBERT HUTTON, OF HOLYOKE, MASSACHUSETTS.

IMPROVEMENT IN PULP-REGULATORS FOR PAPER-MACHINES.

Specification forming part of Letters Patent No. **155,027**, dated September 15, 1874; application filed August 1, 1874.

To all whom it may concern:

Be it known that I, ROBERT HUTTON, of Holyoke, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Pulp-Regulator, of which the following is a specification:

The object of this invention is to furnish means for regulating the consistence and flow of pulp to paper-making machines; and it consists in a regulator constructed and arranged to operate substantially as herein described.

In the accompanying drawing, Figure 1 is a vertical section of Fig. 2, taken on the line *x x*. Fig. 2 is a top view. Fig. 3 is a vertical section of Fig. 2, taken on the line *y y*.

Similar letters of reference indicate corresponding parts.

A is a box, of nearly square form, in which are two vertical partitions, B and C, making two narrow compartments, D and E. This latter compartment, E, is divided by another vertical partition, F. Between B and C is a space, G, which is covered over with a flexible water-proof diaphragm, H. I is the front of the regulator. This compartment E, as before stated, is divided by the vertical partition F, making two small compartments, J and K.

The pulp flows up in the compartment D onto the flexible diaphragm H, and from thence over the partition C into the two small compartments J and K. The pulp which goes to the paper-machine flows into J. The pulp which flows into K returns to the pulp-reservoir beneath. When the pulp is thick it will not pass over the partition C so readily, and will gather on the diaphragm and will depress it.

L is a sheet-metal plate beneath the diaphragm and in contact therewith, attached to the scale-beam *m*. N is a rock-shaft, having an arm, O, which is connected with the scale-

beam *m* by the plate P. Q is a rod, which is moved longitudinally on the top of the regulator by an arm, R, on the end of the rock-shaft N. S is an apron or pulp-gage attached to the rod Q, which stands in an inclined position and slides on the top edge of the partition C. T is a small tank, which is kept filled with water. U is sliding valve, by which the discharge of water into the compartment J is regulated. V is a bell-crank, one arm of which is connected with the valve and the other with a little lug on the end of the rod Q.

When the thick pulp accumulates in the box its weight depresses the plate on the inner end of the scale-beam, which raises the outer end and the adjustable weight W, and this operates the rock-shaft and throws the arm R and rod Q with the gage S to the left, which has the effect to raise the valve U, which allows water to flow into and mingle with the pulp which is flowing down the compartment J. The pulp which flows into the compartment K is returned to the pulp-reservoir. As the rod Q is moved the apron S (or pulp-gage) moves with it; consequently the flow of pulp is increased to one compartment and diminished to the other, according to the direction in which the gage moves.

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

A pulp-regulator constructed substantially as shown and described—that is, having a flexible diaphragm, H, scale-beam M, shaft N, arms O and R, rod Q, apron S, water-tank T, and valve U, substantially for the purposes described.

ROBERT HUTTON.

Witnesses:

WILLIAM WALSH,
GEORGE M. WOLCOTT.