2 Sheets--Sheet 1.

J. W. HUESTED.

Stuff-Regulator for Paper-Machines.

No. 168,746.

Patented Oct. 11, 1875.

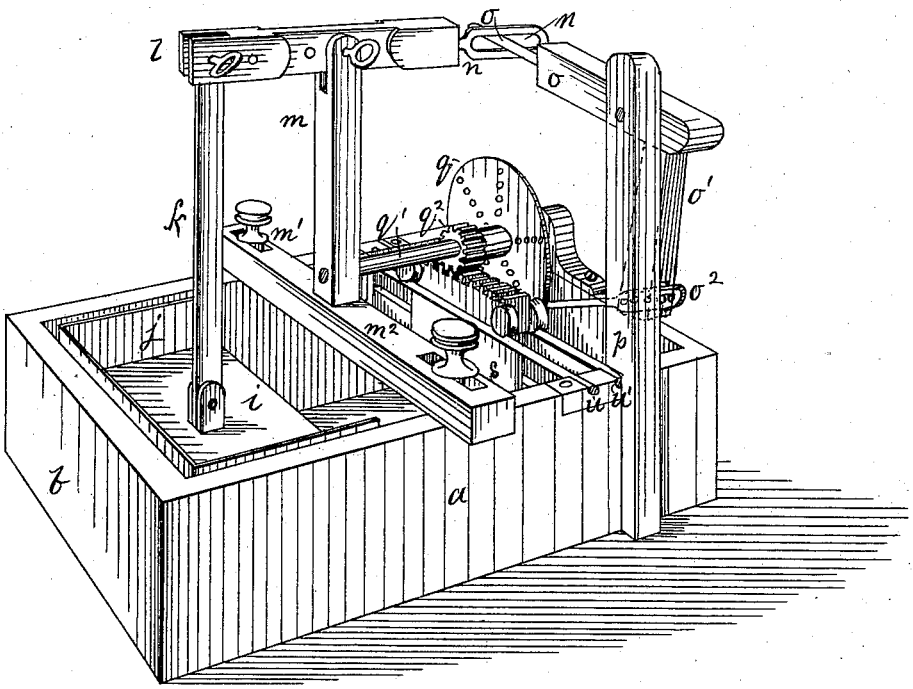

Fig. 1.

Witnesses:
Wm. W Reed
Henry Elmer

Inventor:
John W Huested
per John Dwight Jr & Co
attys

2 Sheets--Sheet 2.

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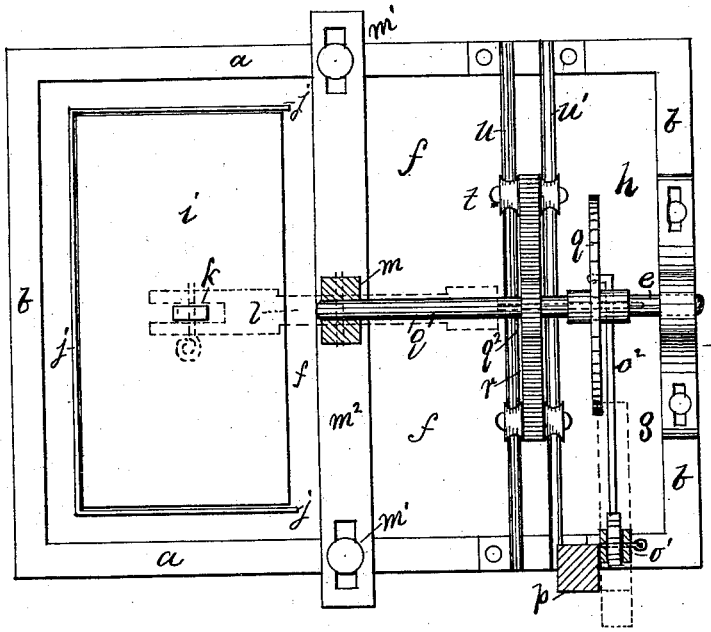

Fig. 2.

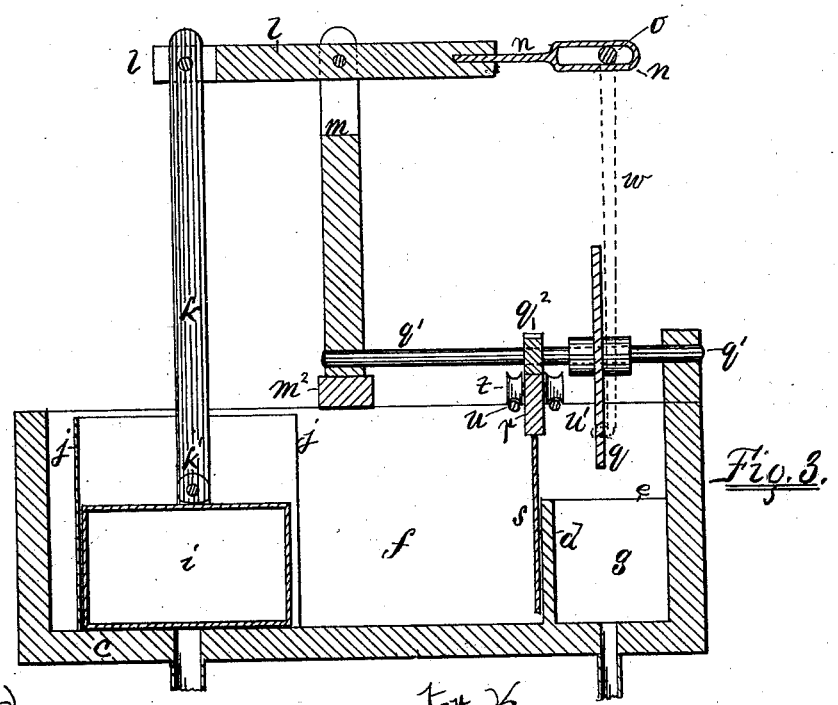

Fig. 3.

Witnesses:
Wm. W. Reed
Henry Elmer.

Inventor:
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UNITED STATES PATENT OFFICE.

JOHN W. HUESTED, OF SCHUYLERVILLE, NEW YORK.

IMPROVEMENT IN STUFF-REGULATORS FOR PAPER-MACHINES.

Specification forming part of Letters Patent No. **168,746**, dated October 11, 1875; application filed March 15, 1875.

To all whom it may concern:

Be it known that I, JOHN W. HUESTED, of Schuylerville, county of Saratoga and State of New York, have invented a new and Improved Stuff-Regulator for Paper-Machines, of which the following is a specification:

The object of my invention is the proper regulation of flow of the paper pulp or stuff from the pulping-machine to the paper-machine automatically and correctly, thereby doing away with the service of attendants and insuring greater accuracy.

My invention consists of a float arranged within a tank or vat, and connected with a sliding or shifting plate by a combination of levers and other mechanism, in such manner that as the float rises upon the inflowing pulp or stuff, the inlet of which is located directly beneath, the rising of the float will communicate movement to the plate which governs the outlets, so that the outflow of the pulp is regulated on its way to the paper-machine, or its excess diverted therefrom and directed to the reservoir, as desired, automatically. It also consists in a combination of a disk or wheel, provided with holes or graded apertures, said disk arranged in combination on the one side with the shifting-plate, through the medium of cogs, and on the other side with the lever giving the movement, in such manner that the amount of throw or shift of the sliding plate may be regulated.

Figure 1 is a perspective view of machine. Fig. 2 is a horizontal view or plan. Fig. 3 is a lengthwise section of machine.

There are two sheets of drawings, marked respectively Sheet 1 and Sheet 2, and upon which *a* represents the side walls of the tank. *b* represents the end walls, and *c* the bottom. *d* represents a partition running entirely across the tank, and *e* is another partition at right angles therewith. The partitions *d* and *e* reach upward from bottom of tank to about half the height, although this might be varied to suit circumstances, and these partitions divide the tank into three chambers, *f* being the larger, and the two remainder or smaller chambers I have marked *g* and *h*, respectively. The inlet-aperture is in bottom of large chamber, and the outlet from the same chamber is over partition *d*, and the outlet leading from the tank to the paper-machine is in the center of the bottom of the small chamber *g*, and the outlet leading from the tank to the reservoir is in the center of bottom of the small chamber *h*. At *i* is shown the float, constructed in any suitable manner, so as to rise properly on the surface of the inflowing mixture. At *j* is a half-case or guide-frame attached to the bottom *c* of the tank. Its object is to guide the float as it rises vertically. At *k* is shown an arm attached to top of tank, pivoted at *k'*, and, reaching upward to a suitable height, is pivoted to a lever, *l*, which lever is sustained at about its center by the standard *m*. The standard, resting upon the adjustable cross-piece m^2, is secured to the sides of tank at m^1, in any suitable manner. At the outer end of lever *l* is fitted a slotted plate, *n*, or its equivalent, into which runs one end of another lever, *o*, placed at right angles therewith and sustained at its outer end by a standard, *p*, running upward from side of the tank. The lever *o* has beneath, at the point where pivoted to standard, an arm, o^1, reaching downward to nearly the top of tank, where it is connected to another arm or lever, o^2, which reaches over to the center of tank, to where it connects with a revolving disk, *q*, or wheel, perforated so that the connection may be adjustable. The axle q^1 of the said disk or wheel *q* runs lengthwise the tank, resting upon end of tank, and its opposite end resting upon cross-bar m^2, by suitable bearings. At q^2, on the axle q^1, cogs are arranged, fitting to corresponding cogs *r* on the sliding plate *s*, in such manner that as the cogs *r* are revolved with the wheel or disk *q* the sliding plate *s* is slid from side to side, as desired. The shifting or sliding plate *s* is provided with friction-wheels *t*, running upon rods or rails *u* and *u'*, so as to run readily. The exact distance traversed is regulated by the manner in which the connection of lever o^2 is arranged to the disk *q*, the said disk *q* being provided with a series of holes through, and at suitable distances and directions from, its center, into which the turned end of lever o^2 may be run or hooked, giving the requisite adjustability desirable.

The operation of the above-mentioned devices is as follows: After lever o^2 is adjusted

and connected properly to the disk q, the machine is ready for the inflow of the paper pulp or stuff, which enters beneath the float i, through inlet, causing the float to rise, which it continues to do to the exact extent of the rise of the inflowing mass, in its rise moving upward the end of lever l, attached to float-arm k, depressing the opposite end of lever l, carrying with it the connecting end of lever o, and, through said lever o, its downward-projecting arm o^1, and lever o^2 revolving the disk q and cog-wheel r, communicating a sliding motion to the plate or slide s, according to the manner of ajustability of lever o^2 with disk q. The sliding plate s fits against the partition d, over which the pulp must pass, and by its sliding backward or forward along the said partition forces or diverts all excess of flow of the pulp from the chamber leading to the paper-machine to that leading to the reservoir. Thereby the exact amount is regulated, and any overflow toward the paper-machine prevented. The pulp, being a thickened mass, is liable to overflow the machine were this precaution not taken.

Dotted lines on Fig. 3, marked w, show a modification of the contrivances before mentioned, by which the lever o, arm o^1, and the standard p are dispensed with, and the lever o^2, by having its outer end connected with lever l in any suitable manner, creates a more direct connection between the tank-float i and the wheel q or disk, and in some cases this connection is very useful; but in large tanks the first-mentioned combination is the best.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of float i, arm k, lever l, cross-lever o, arm o^1, lever o^2, disk q, cogs q^2 and r, and shifting or sliding plate s, in the manner substantially and for the purpose described and set forth.

2. The combination of disk or wheel q, shifting-plate s, and lever l, constructed and arranged to operate substantially in manner and for the purpose described and set forth.

JOHN W. HUESTED.

Witnesses:
I. C. FORD,
N. J. SEELYE.