J. S. WARREN.

Paper-Pulp Screen.

No. 165,192. Patented July 6, 1875.

Fig. I.

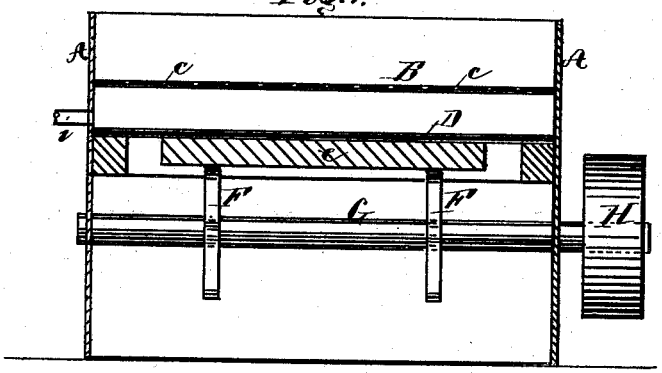


Fig. II.

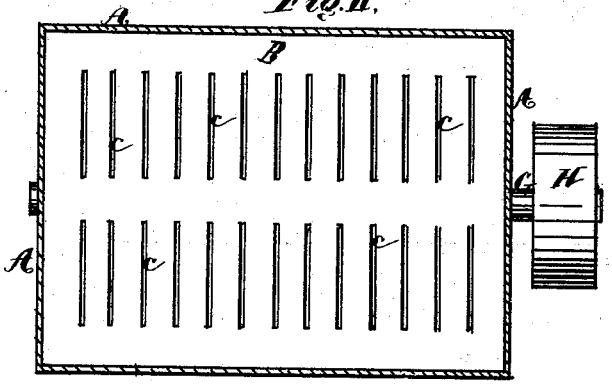
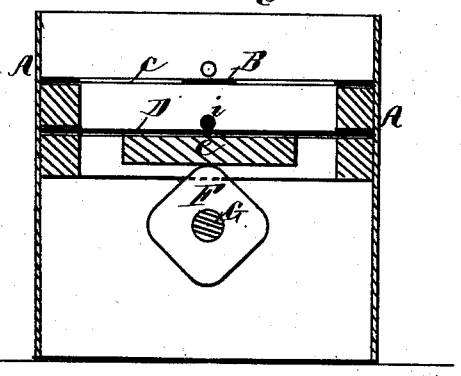


Fig. III



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UNITED STATES PATENT OFFICE.

JOHN S. WARREN, OF WILMINGTON, DELAWARE.

IMPROVEMENT IN PAPER-PULP SCREENS.

Specification forming part of Letters Patent No. **165,192**, dated July 6, 1875; application filed April 29, 1875.

To all whom it may concern:

Be it known that I, JOHN S. WARREN, of Wilmington, New Castle county, State of Delaware, have invented certain Improvements in Paper-Pulp Screens, of which the following is a specification:

The object of my invention is to produce an improved screen or dresser for paper-pulp, by aid of which the water will run off more rapidly, and thus be quicker separated from the pulp than in heretobefore known or used paper-pulp screens.

The pulp, consisting of the fibers of the material of which the paper is being made and of water, is run into the screen or dresser for the purpose of separating the water from the fibers. The fibers, being the heavier part, sink to the bottom, and are apt to prevent the water from sieving through the holes or slots in the bottom of the screen.

In order to obviate this difficulty a diaphragm of flexible material is placed under the bottom of the screen and fastened to the sides of the screen, in such a manner that an air and water tight space is formed between the top of the diaphragm and the bottom and the sides of the screen. To the outside center part of the diaphragm is attached a piece of metal or wood, against which revolve two irregular-formed disks attached to a shaft placed parallel to the bottom of the diaphragm. This shaft, being revolved by suitable power, makes the disks also to revolve, and, as they are irregularly formed, they will at short intervals lift the diaphragm up, and thus compress the air inside of the same.

The compression of the air naturally tends to elevate the fibers which clog up the holes or slots of the screen, and thus allows the water to run through.

In order to describe my invention more fully I refer to the accompanying drawings forming a part of this specification.

Figure I is a sectional elevation of my improved paper-pulp screen. Fig. II is a transverse section of the same through line *x x*, Fig. I.

A is the frame of the screen; B, the screen, with slots *c c*. D is the diaphragm, with bottom piece *e*, against which the disks F F operate. G is the axle, to which the disks F F are keyed. H is a pulley, by aid of which the axle is revolved. *i* is the outlet-pipe for the water.

Having thus described my invention, I desire to claim—

The diaphragm D, with bottom piece *e*, and the axle H, with disks F F, in combination with the screen B and frame A, substantially as described, and for the purpose set forth.

This specification signed this 23d day of April, 1875.

JOHN S. WARREN.

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