

B. G. BROOKS.

Apparatus for Washing Printed or Bleached Goods.

No. 135,518.

Patented Feb. 4, 1873.

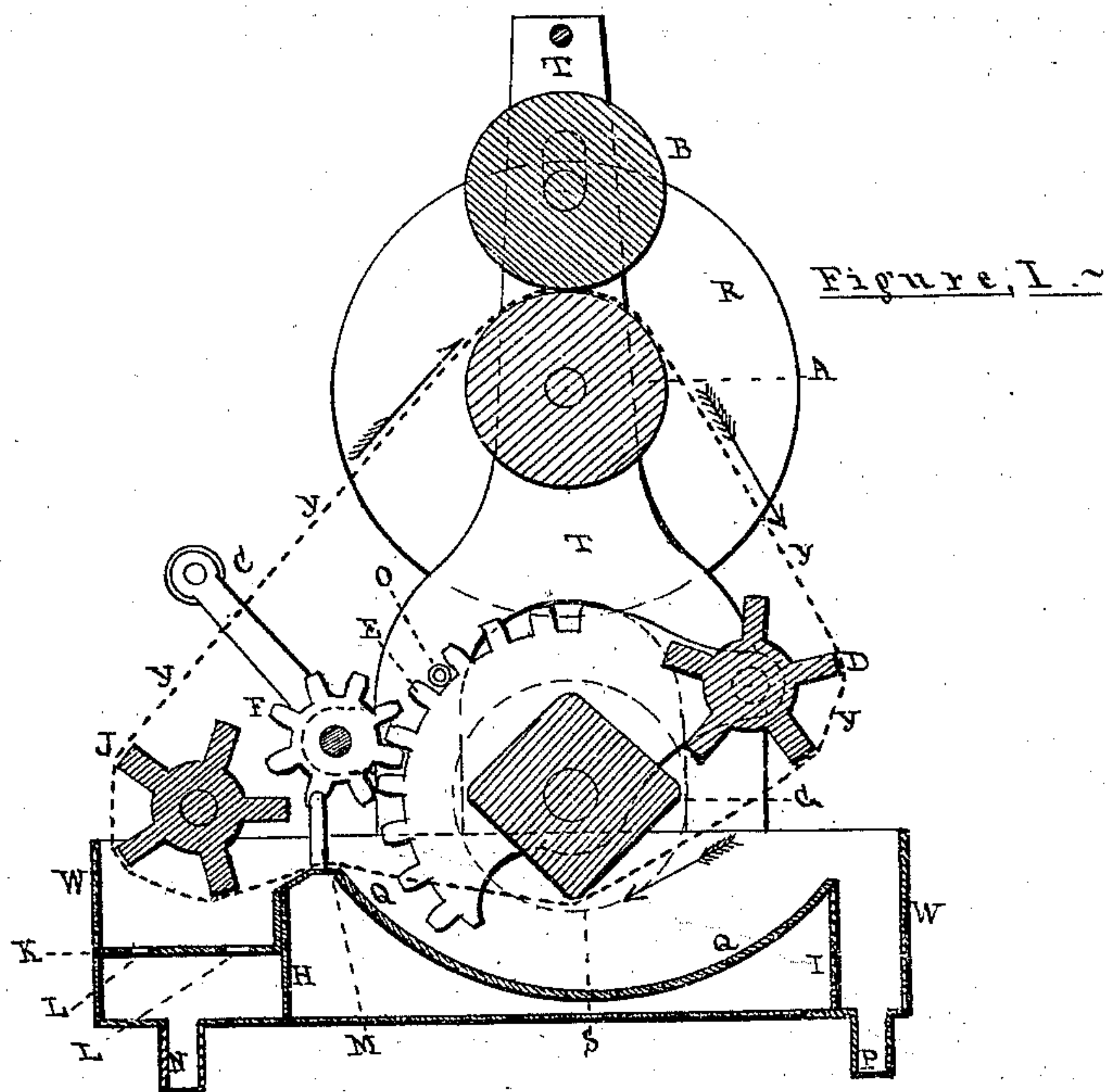
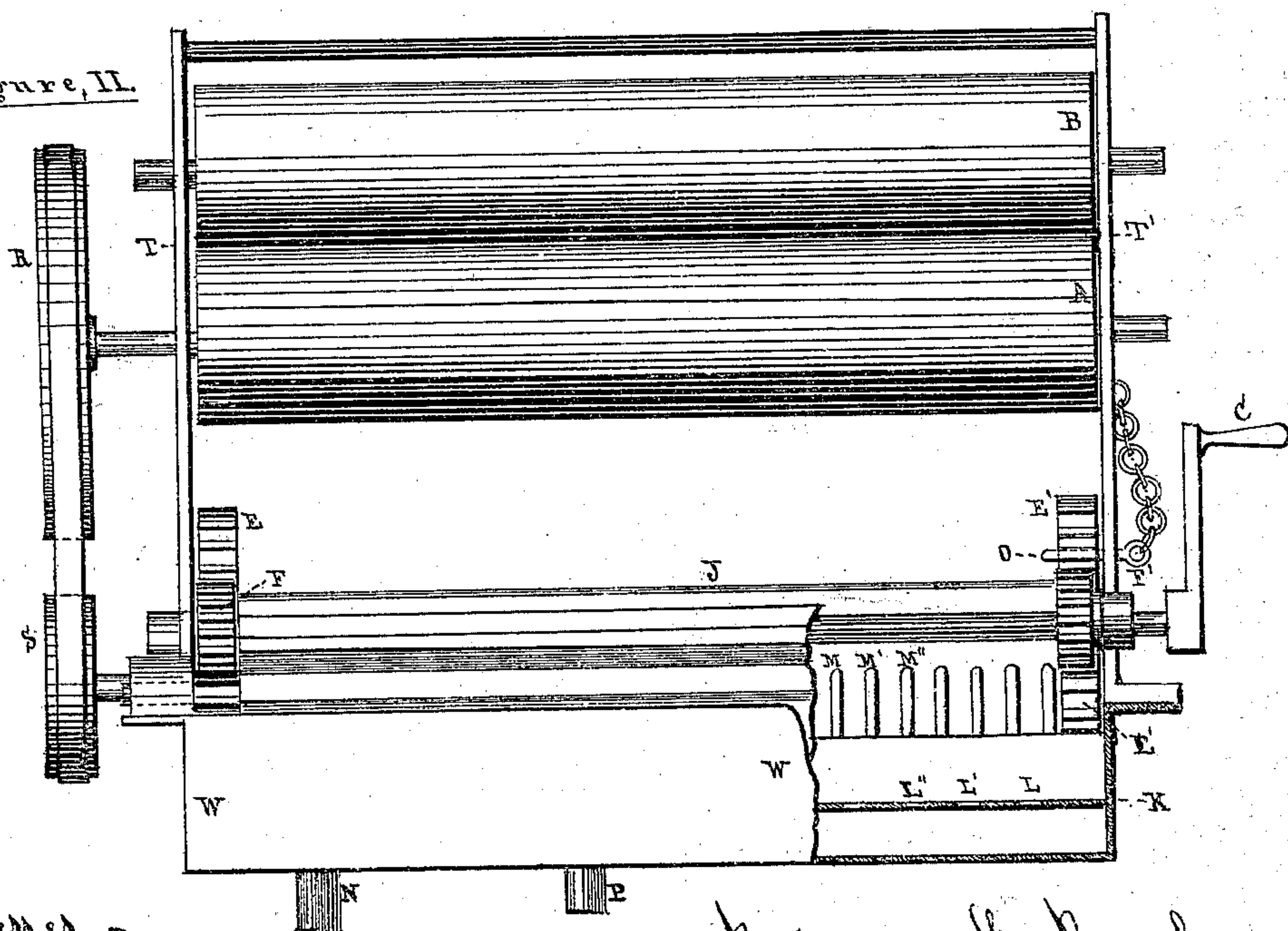


Figure II.



Witnesses -
Franklin Hunt.
Henry S. Power.

Benjamin G. Brooks,
by his Attorney, John M. Batchelder.

UNITED STATES PATENT OFFICE.

BENJAMIN G. BROOKS, OF MANCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN APPARATUS FOR WASHING PRINTED OR BLEACHED GOODS.

Specification forming part of Letters Patent No. 135,518, dated February 4, 1873.

To all whom it may concern:

Be it known that I, BENJAMIN G. BROOKS, of Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain Improvements in Machines for Washing Piece-Goods, of which the following is a specification:

My improvement relates, mainly, to the construction of the water-box, which is provided with one or more partitions or wears by means of which the height and velocity of the water are regulated, the foul water carried off, and pure water admitted; also in an apparatus for regulating the tension of the cloth as it passes through the water, in order that light and delicate fabrics may be washed without being subjected to heavy strain.

The machine is intended for washing printed or bleached goods, a large number of pieces being sewed end to end, forming one continuous length or chain; and it is very desirable that the washing be rapid, and that the drugs, dirt, and all impurities be at once carried out of the wash-box.

By the common mode of washing piece-goods, the whole body of water in the tank or cistern is pervaded by the impurities, and to force these off a great quantity of water is required. My machine does the work with much less water, more rapidly, and with a very great saving of power, this last being the result, in part, of the mode of guiding and directing the cloth, together with the manner of adjusting and regulating the tension of the goods. The flow of the water is in a direction opposite to the progressive motion of the endless band or line of piece-goods.

In the drawing, making a part of this specification, Figure I is a sectional and end view of the machine. Fig. II is a front elevation.

The ends of the water-box W, or a frame attached thereto, afford support to the rollers, the beater, the quadrant-gears, and other attached parts. The box is divided lengthwise by the wear H, the space between it and the side of the box being supplied with water by the inlet-pipe N. From the top of the wear a concave bottom, Q, extends to the top of a partition, I, that is parallel to the wear H, and of the same length. A narrow horizontal shelf between the partition H and the concave bot-

tom Q supports the series of guide-rods M M'. At about one-half the height of the partition H there is a horizontal partition, K, extending the whole length of the machine. This has numerous perforations, L, through which the water passes that is supplied by the feed-pipe N. The foul water flows off at the discharge-pipe P. The gear R, supported in the frame T, drives the attached roller A and the pinion S, and the latter turns the beater G. The top roller B rests upon the roller A, and is turned by friction with it. The adjustable roller D and the fixed roller J above the perforated partition K extend the whole length of the machine, and are deeply fluted, as represented in Fig. I. The roller J keeps the cloth in position and at the right height. It is turned by the cloth as it passes forward. The quadrant-gears E E' support the fluted roller D in bearings at each end. These gears are turned forward or back by the crank and pinion C F. This imparts curvilinear motion to the roller D, and produces more or less tension upon the cloth. When the strain is properly adjusted, the pin O holds the quadrant-gears in place.

The cloth to be cleansed is represented in heavy broken lines at Y, Fig. I. The arrows show the direction of its motion. The cloth is put into the machine by passing the end under the fixed roller J, the beater G, the adjustable roller D, and between the top rollers A and B. Between the roller J and the beater G it passes through the spaces of the guide-pins M M', &c.

It will be noticed that the cloth has a lateral motion in the machine, for as each successive turn enters a separate space between the pins M it has a spiral movement, gaining one pin at each revolution of the cloth. The top roller B should be heavy enough to insure firm contact with the cloth that lies upon the lower or driving roller A, in order that the cloth may be carried forward with a steady and uniform motion. The cloth runs but a little below the surface of the water, and there meets a rapid current flowing toward the wear I and outlet-pipe P.

The machine may be driven by belt and pulleys, as shown in Fig. II; but gears are preferred.

The partition K, with its apertures L L', is for the purpose of diffusing the water and rendering its flow uniform throughout the whole length of the machine.

What I claim, and desire to secure by Letters Patent, is—

1. A water box or tank containing two vertical partitions or wears parallel to each other and near to the opposite sides of the box, and having between them a concave bottom, G, as herein described, and for the purpose specified.

2. The combination of the double wears and concave bottom with the inlet and outlet pipes,

placed with reference to each other as herein described.

3. In combination with a water-box having double wears and a concave bottom, the horizontal perforated partition K, the inlet-pipe N, and the outlet-pipe P.

4. The adjustable roller D, in combination with the beater G and a water-box, W, constructed as herein described.

BENJ. G. BROOKS. [L. S.]

In presence of—

FRANK HEILAND,
GEO. W. MORRISON.